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SIERRA CLUB BULLETIN

February, 1941



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VOLUME XXVI

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THIRTY-FOUR ILLUSTRATIONS

Published Bimonthly by the Sierra Club, San Francisco, California.

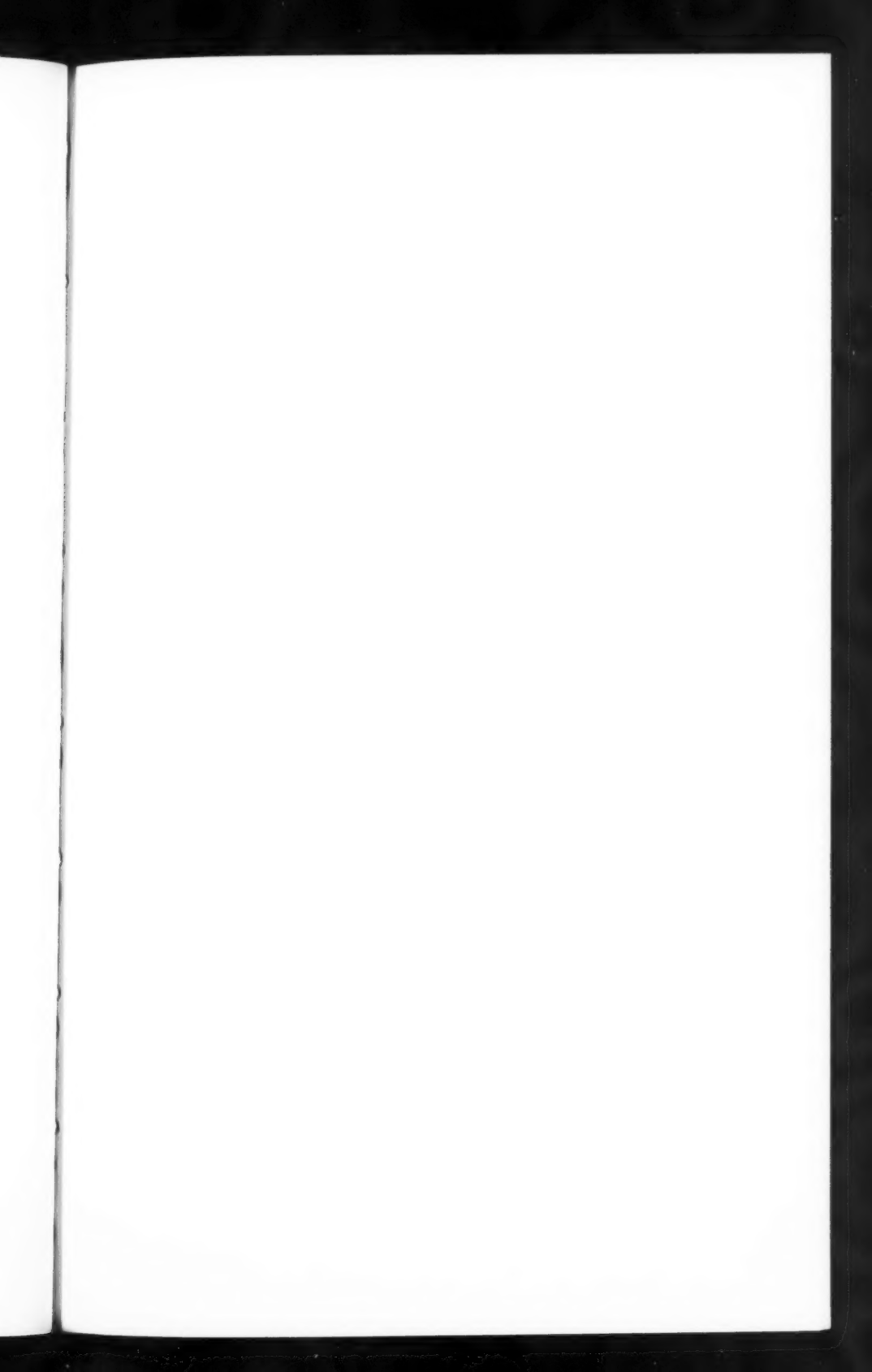
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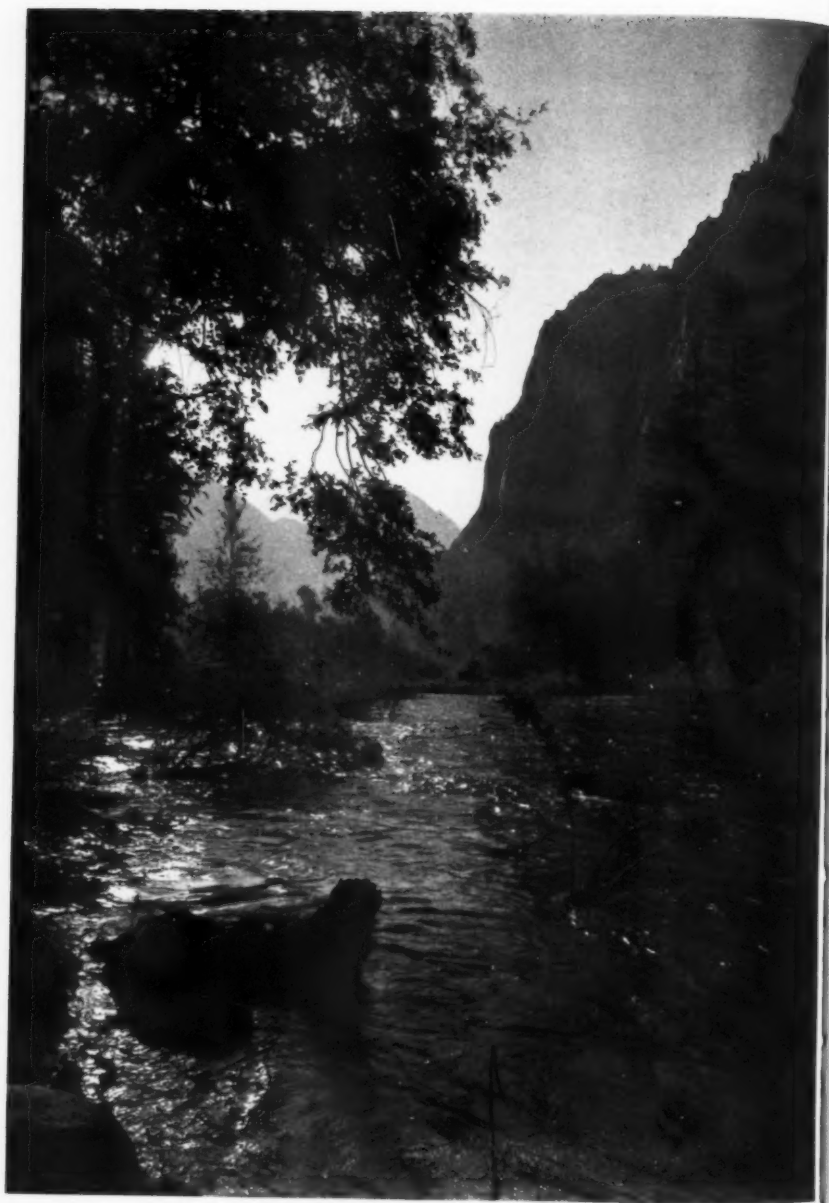
The annual dues of the Sierra Club are \$4.00 (first year \$8.00), of which \$1.00 is for
subscription to the *Sierra Club Bulletin*.

The price of the magazine is 75 cents per copy.

Entered as second-class matter at the Post Office at San Francisco, California,
under the Act of March 3, 1879.

Printed by Taylor & Taylor, San Francisco





KINGS RIVER — IN THE SOUTH FORK CANYON By Cedric Wright

SIERRA CLUB BULLETIN

VOLUME XXVI



NUMBER 1

FEBRUARY, 1941

The Kings River Valley

By JOHN MUIR

NATURE is seldom suspected of being poor, for does she not possess all the real estate of the world, to say nothing of unexplored moons and stars? And has she then only one Yosemite Valley? It is now nearly a quarter of a century since the Indians were first disturbed by the intrusion of the whites into this their finest mountain home and stronghold, and though all sorts of people have written of the grandeur and loveliness of its rocks and snowy waters, the world at large remains strangely blind to the fact that in the Sierra Nevada there are many yosemites, differing from this one in no other way or degree than one man or mountain differs from another.

Ever since its discovery we have been assured by scientists that Yosemite stood alone and unrelated among all the known valleys of the world. There was nothing like it in Switzerland; in the recesses of the snow-capped Andes; in the Himalaya, or Africa's Mountains of the Moon. It was a special church or temple in which all the landscape-loving world should do extraordinary worship. Or according to other penmen perhaps scarcely less devout, it was to be regarded as a mere geological marvel on a grand scale, which like ancient miracles, lay at a hopeless distance beyond the boundaries of exact science, the very grandeur and simplicity of its

First published in *The Daily Evening Bulletin*, San Francisco, August 13, 1875.

forms preventing the recognition of the plain truth that it constitutes one harmonious and natural feature of the noble mountain landscape in which it lies. Some three years ago I called public attention to Hetch Hetchy Valley, situated on the Tuolumne river twelve miles in an air line to the northwest of here, showing at the same time that in every essential particular it was a Yosemite valley, formed by the same forces, lying at the same height above sea level, occupying the same relative position on the flank of the range, and its lofty granite walls sculptured and wrought into the same species of sublime forms, and the whole adorned and inspired with the same kinds and combination of plants and waterfalls.

I have just returned from an extended excursion to the summit of Mount Whitney, in the course of which I passed through the Kings River Yosemite, which is larger, and in some respects more interesting than the Yosemite of the Tuolumne and Merced. This magnificent valley is situated upon the South Fork of Kings River, about forty-five miles from Visalia in a straight line. It measures about nine miles in length from east to west, and has an average width at bottom of about half a mile. The walls are quite as precipitous as those of Yosemite, so-called, and are about 3000 feet in height, and sculptured into the same noble forms that characterize all the Yosemite of the Sierra. The bottom of the valley is about 5000 feet above the level of the sea, and its level surface is diversified with meadows and groves, through which the river pours its crystal floods in lavish abundance—now calmly and with scarce a ripple over brown pebbles and sheets of yellow sand, now in rushing rapids over beds of mossy boulders and dams of avalanche debris.

We set out from here on the 9th of July, our party consisting of George Bayley of San Francisco, Charles Washburn, a student of the State University, with "Buckskin Bill" as mule master, all well mounted on tough, obstinate mules. Right gladly we pushed our way into the wild untrampled kingdom of the Sierra, inspired with the thousand indefinite joys of the green summer woods; past Clark's Station and the Mariposa Grove of Big Trees; through the luxuriant forests of the Upper Fresno, fairly dripping with balsam and gum; climbing many a hill and dale bestrewn with brown burs, and fording many a bright dashing brook edged with tangled

alders and willows; making a devious trail, yet tending ever southward, independent in our course as birds in the calm cloudless air. Soon we found ourselves among the heated foothills of the San Joaquin, and on the edge of the strangely dappled plains.

At Centerville we crossed the wide stately current of Kings River, still transparent and sparkling as if fresh from the high alpine snows, then facing eastward climbed to the piney woods again, and meandered like a headless river through the magnificent groves of King Sequoias that still flourish in cool glens and hollows from Kings River southward to the Kaweah, and yet beyond. Here we heard the sound of axes, and soon came upon a group of busy men engaged in preparing a butt section of a giant sequoia they had felled for exhibition at the Quaker Centennial. This tree was twenty-five feet in diameter at the base, and so fine was the taper of the trunk that it still measured ten feet in diameter at a height of two hundred feet from the ground. According to the testimony of the annual wood-rings, counted by three different persons, this tree at the time of its death was from 2125 to 2317 years old. The section cut for exhibition is sixteen feet long, split into eight immense staves, the heartwood being removed by splitting and hewing until the staves measure about eight inches in thickness inside the bark. When, therefore, the section is set up for exhibition it will appear as a huge tub cut from a hollow log. The speculative genius who planned and is executing this sequoia enterprise is Martin Vivian of Helena, Montana, and in order to make the most of it, he purposes placing his rustic tub on exhibition during the coming winter at St. Louis. A wagon road has been graded into the grove, and the staves are now almost ready for transportation to the railroad.

Many a poor, defrauded town dweller will pay his dollar and peep, and gain some dead arithmetical notion of the bigness of our Big Trees, but a true and living knowledge of these tree gods is not to be had at so cheap a rate. As well try to send a section of the storms on which they feed.

Out of this solemn ancient forest we climbed, still upward and eastward, into the cool realms of the alpine pines, and at length caught a long, sweeping view of the beetling cliffs and rock brows that form the walls of the glorious Yosemite, for which we were so eagerly looking. The trail by which we descended to the bottom of

the valley enters at the lower or west end, zigzagging in a wild independent fashion over the south lip, and corresponding in a general way both in position and direction to the Mariposa trail of the Merced Yosemite, and like it, affording a series of enchanting views up the valley, over the groves and meadows between the massive granite walls. Indeed, so fully and radically were these views Yosemite in all their leading features it was difficult to realize that we were not entering the old Yosemite by Inspiration Point. Bayley's joy usually finds expression in a kind of explosive Indian war whoop, and wild echoes were driven rudely from cliff to cliff, as the varied landscapes revealed themselves from the more commanding points along the trail.

In about two hours after beginning the descent, we found ourselves among the sugar pine groves at the lower end of the valley, through which we rode in perfect ecstasy, for never did pines seem so noble and religious in all their gestures and tones. The sun pouring down mellow gold, seemed to be shining only for them, and the wind gave them voice, but the gestures of their outstretched arms appeared wholly independent of the winds, and impressed one with a solemn awe that overbore all our knowledge of causes and brought us into the condition of beings new-arrived from some other far-off world. The ground was smoothly strewn with dead, clean leaves and burs, making a fine brown surface for shadows, many a wide, even bar, from tapering trunk columns, and rich mosaic from living leaf and branch. There amid the groves we came to small openings without a tree or shadow, wholly filled with the sun, like pools of glowing light.

We camped on the riverbank a mile or two up the valley near a small circular meadow, that is one of the most perfect flower gardens I have ever discovered in the mountains. The trampling mules, whom I would fain have kept out, fairly disappeared beneath the broad, overarching ferns that encircled the garden proper. It was filled with lilies and violets, and orchids, and sun-loving golden rods and asters, and oenothera, and purple geraniums, and epilobium, with a hundred others all in bloom, but whose names no one would read, though all the world would love to revel in their beauty as they grow. One of the tiger lilies that I measured was six feet long, and had eleven open flowers, five of them in prime beauty. The wind rocked this splendid orange panicle

above the heads of the geraniums and brier roses, forming a spectacle of pure beauty exquisitely poised and harmonized in all its parts. It was as if nature had fingered every leaf and petal that very day, readjusting every curve, and touching the colors of every corolla; and so she had, for not a leaf was misbent, and every plant was so placed with reference to every other in form and color that the whole garden had evidently been arranged like one tasteful bouquet. Here I lived a fine unmeasured hour "considering the lilies," warming among the mellow waving goldenrods, and gazing into the countenances of the briers and small white violets. Every individual flower radiated beauty as real and appreciable as sunbeams, and the lily bells swinging on their long stalks rang out music that was heard as plainly as the river, or wind in the pine tops. Many other wild gardens occur along the riverbank, and in cool side dells where a stream comes out of a canyon, but neither at this time nor during my former visit to the valley were any discovered so perfect as this one. The lower half of the valley consists of sugar pine groves divided by sunny park-like openings on which manzanita and several species of ceanothus form a scanty covering. Some of these openings are dry and gravelly and grow fine crops of monardella for the bees, together with eriogonae and the most sun-loving compositae for butterfly and hummingbird pastures. Towards the upper end of the valley there is quite an extensive meadow that reaches from wall to wall. The riverbank, groves and borders are made up chiefly of alder, poplar and willow, and a rich measure of azalea, brier rose and wild honeysuckle, all combined with reference to the best beauty, and to the special wants of the wide crystal river.

Beginning at the lower end of the valley, the first two miles of the walls are leveled off at the tops, and are so broken and soil besprinkled they support quite a number of trees and shaggy bushes, but farther up the granite speedily assumes yosemite forms and dimensions, rising in stupendous cliffs, angular and sheer from the level flats and meadows. On the north wall there is an El Capitan and group of Three Brothers. Farther up on the same side there is an Indian Canyon and North Dome and Washington Column. On the south wall counterparts of the Sentinel and Cathedral Rocks occur in regular order bearing the same relative position to one another that they do in Yosemite, for the simple reason that like

causes produce like effects, both valleys being in general terms simple pieces of erosion accomplished by the ancient glaciers that flowed through them.

With regard to waterfalls, those of Yosemite are more striking and impressive in their forms and in the songs they sing, although the whole quantity of water that pours over the walls is considerably less and comes from lower sources. The waters of the new valley effect their descent by a series of comparatively short leaps and inclines, which, according to the vague classification in vogue in these dark, pretentious days, would mostly be brought under the head of cascades. These, however, are exceedingly beautiful, more beautiful than vertical falls, and belong to a higher type of water beauty. Nevertheless, it may be long ere waterfalls have their beauty measured in any other way than by plumb-lines and tapelines.

Our ride up the valley was perfectly enchanting, every bend of the river presenting reaches of surpassing loveliness, sunbeams streaming through its border groves, or falling in broad masses upon the white rapids or calm, deep pools. Here and there a dead pine that had been swept down in flood time reached out over the current, its green mosses and lichens contrasting with the crystal sheen of the water, and its gnarled roots forming shadowy caves for speckled trout where the current eddies slowly, and protecting sedges and willows dip their leaves. Among these varied and ever-changing river reaches the appreciative artist may find studies for a lifetime.

The deeply sculptured walls presented more and more exciting views, calling forth the unbounded admiration of the whole party. Bold sheer brows standing forth into a full blaze of light, deep shadowy side gorges and canyons inhabited by wild cascades, groups of gothic gables, glacier-polished domes, coming into view in ever-changing combinations, and with different foregrounds. Yet no individual rock in the valley equals El Capitan or Half Dome, but, on the other hand, from no position on the Yosemite walls could a section five miles in length be selected equal in downright beauty and grandeur to five miles of the middle portion of the south wall of the new valley.

We camped for the night at the foot of the new Washington column, where the ferns and lilies reached to our heads, their rich,

lavish exuberance contrasting strikingly with the massive, naked walls.

The summer day died in purple and gold, and we lay watching the growing shadows and the fading sunglow among the heights. Each member of the party made his own bed, like birds building nests. Mine was made of fern fronds, with a sprinkling of mint spikes in the pillow, thus combining luxurious softness with delicate fragrance, in which one sleeps not only restfully but deliciously, making the down beds of palaces and palace hotels seem poor and vulgar by contrast.

The full moon rose just after the night darkness was fairly established. The dim gray cliff at the foot of which we lay was crowned with an arch of white, cold light long before the moon's disc appeared above the opposite wall. Down the valley one rock-front after another caught the silvery glow, and came out from the gray and dusky shadows in long, imposing ranks, like very spirits, forming altogether one of the most impressive scenes I ever beheld. The tranquil sky was also intensely lovely, blooming with stars like a meadow, and the thickets and groves along the riverbank were masses of solid darkness. It was too surpassingly beautiful a night for sleep, and we feasted long upon the rare scene ere the weariness of enjoyment closed our eyes. Next morning we rode up the valley in the sunshine, following the north bank of the river to where it forks at the head. The glacier-polished rocks glowed in the slant sunbeams in many places as if made of burnished steel. All the glacial phenomena of the new valley, the polished surfaces, *roches moutonnées*, and moraines, are fresher and less changed than those of the old. It is evidently a somewhat younger valley, a fact easily explained by its relation to the fountains of the ancient glaciers, lying above it in the snowy alps. Like the old valley, this also is a favorite summer resort of Indians, because it produces acorns and its streams abound in trout, and, no doubt, they have names for all the principal rocks and cascades, and possess numerous grotesque and ornamental legends, though as yet I have not been able to learn any of them. A good mountain trail conducts out of the head of the valley, across the range by the Kearsarge Pass to Owens Valley, which we followed, and reached Independence in two days, where we made up our outfit for the ascent of Mount Whitney, the loftiest peak in the range.

This new Kings River yosemite is already beginning to attract tourists from all parts of the world, and its fame will soon equal that of the old. It is quite as accessible, the distance from the railroad being, as we have said, only about forty-five miles in an air-line, and the greater portion of the distance is by a good wagon-road. Horses and all the necessary outfit may be obtained at Visalia, and the excursion has the advantage of comprehending the finest groves of big trees in the State, as well as a section of the best pine and fir forests, and if the trail be followed to Independence, views will be had of the very highest portion of the Sierra. The Kearsarge Pass is over 12,000 feet in height, and is located in the midst of a perfect wilderness of peaks from 13,000 to over 14,000 feet in height, rising from rare glacial meadows and lakes, and adorned around their bases by a multitude of the very dearest of alpine flowers.

Those who can should visit the valley at once, while it remains in primeval order. Some twenty-five years ago the Tuolumne yosemite was made into a hog pasture, and later into a sheep pasture. The Merced Yosemite has all its wild gardens trampled by cows and horses, and we noticed upon a pine tree in the Kings River Valley the following inscription:

"We the undersigned claim this valley for the purpose of raising stock, etc."

By which it appears that all the destructible beauty of this remote yosemite is doomed to perish like that of its neighbors, and our tame, law-loving citizens plant and water their garden daisies without concern, wholly unconscious of loss.



My First Summer in the Kings River Sierra

By JOSEPH N. LECONTE

IN looking back over many years of travel in the High Sierra, there is one trip that to me stands out above all others as the most exciting and enjoyable; that taken with three other college boys of my own age in the summer of 1890. It was not my first camping experience in the mountains, but it was the first time that I had gone through an entirely new and practically unmapped region. Ever since I had read the graphic account given by the exploring party of the California Geological Survey, and Clarence King's *Mountaineering in the Sierra Nevada*, my heart had been set on visiting the then almost unknown country at the headwaters of Kings and Kern Rivers. And so it came about that four of us, students at the University of California—Hubert P. Dyer, Cornelius B. Lakenan, Fred S. Pheby, and I—decided to pack into that region for an extended trip, and try to do some surveying to fill in if possible a little detail on the rather indefinite maps of that period.

We decided to start from Fresno, make our way into the Kings River Canyon, cross the mountains to Owens Valley, ascend Mount Whitney, then follow the Owens Valley to Mono Lake, and re-cross the Sierra to Yosemite. We were to travel afoot using burros to carry the packs, and expected to be out at least two months. Professor George Davidson of the Coast and Geodetic Survey, became interested in our proposed trip, and lent us a small mountain transit and two aneroid barometers, showing us how to take and work up observations. We also carried a 4 x 5 camera equipped with the newly perfected celluloid film.

On June 26, 1890, we went to Fresno, where we obtained our equipment. Three burros had to be purchased, as well as provisions for the trip, while packsaddles and kyacks had to be made, since none could be found in stock. At the last moment Guy Dyer, a cousin of Bert living in Fresno, decided to accompany us on horseback as far as the Kings River Canyon.

By the morning of July 2 we had put behind us the troubles of crossing the flooded Kings River sloughs, the high temperatures of an arduous three days of travel afoot from Fresno to the eastern

end of Squaw Valley. It was cool and pleasant as we took our way up Mill Creek toward the top of the pine-covered ridge which marked the first of the forest belt. We followed an old logging road right up the creek along a very steep grade and were in the heart of the forest by noon. Finally after climbing an endlessly long ascent we came to the crest of a ridge, and looking down over the tops of the trees on the other side saw a small lake directly below.¹ This was the site of Thomas's Sawmill ranch, which had been flooded for use as a reservoir. It was here that a party of the State Geological Survey made its headquarters in 1864, when exploring the head of Kings River.² At that time the forest-encircled basin was occupied by a meadow, but this beautiful feature had of course been destroyed by the reservoir. At the water's edge we made camp for noon. After lunch Guy rode down to Moore and Smith's mill to get directions for our future route. When he returned we entered the forest again, following an old logging road which was not much more than a trail. We passed through a lumber camp where sequoia trees were being split into fence posts, and by evening reached a point where a fairly well defined trail turned to the east. This, from the directions given Guy at the sawmill, must be the Kings River trail, and after some discussion we decided to follow it. When it became too dark to see, we were obliged to stop at the nearest meadow. A huge campfire soon lighted up the forest, and under this glorious canopy we made camp. Guy produced venison procured from the lumbermen, and together with the flapjacks, tea, and mush we had a fine dinner. Nevertheless, we had an uneasy suspicion that we were off the trail, though none would admit it.

It was evident next morning that we should not have left the old logging road if we wished to visit the Visalia Big Tree Grove.³ Therefore, Bert and Guy returned to the road in order to follow it through. Meanwhile, Lakenan and I climbed a high ridge to the east and enjoyed a magnificent panorama of the snowy Sierra from Kaweah Peaks to Mount Goddard. On reaching camp we found that Bert and Guy had returned. They had found the Big Tree Grove and met there a professional packer named John Fox, on his way to the Kings River Canyon, who said he would be glad

¹ Sequoia Lake.

² Report of the Cal. Geological Survey. Vol. I, Geology, page 368.

³ General Grant Grove.

to have us follow him in. We hurried the packs on the jacks, and everything was ready by the time Fox appeared. He led the way during the rest of the day over the sheep trail until camp was made at Burton Meadow.

On July 4, we were up at the earliest dawn and along the trail by 5:20, for Fox said that Boulder Creek must be crossed before the sun began to melt the snow. We reached the bank of the creek in the course of an hour, and then there began the circus of getting the animals across. Fortunately the sheep men had cut a tree across, so we unpacked and carried all our stuff over first. Then one by one the jacks and horses were snaked through with ropes, and the job was done. By noon we were beyond Horse Corral Meadow, and in the afternoon made our way down the long hill to the river at Fox's camp on the Kings River.⁴ The trail at that time went straight down the mountain without zigzags. Though very rough it had the advantage of shortness—the hill was only three miles long. By five o'clock we were camped on the bank of the South Fork, at this season a raging torrent of white foam. It was a splendid sight to look upon, but the thought of crossing it, as we must, worried us. When dinner was well under way, Lakenan and Guy started up the river hoping to get a few fish, and returned in fifteen minutes with a string of thirty-six.

We stayed at Fox's camp a day and a half, and then started up the canyon on the south side toward Roaring River. We camped at the ford that night, but one glance at the stream showed that it was no ford for us. Since the problem of crossing Roaring River was serious, we decided to take another day off, to explore the canyon above before tackling it. Again we were fortunate in finding a foot log, cut by the sheep men, which spanned the stream just below the fall, and on July 7 we crawled over on it, and walked up to the big meadow.⁵ A huge pine five feet in diameter bridged the main river at a point just below the meadow. We had time to spare, so went up Avalanche Canyon, and ascended the cliffs to the west, thus reaching the crest of the rock wall in the angle between the main canyon and that of Roaring River, some 3000 feet above the floor of the valley. It was a rough trip, and we were tired out when we reached our camp at about 7:30 P. M.

⁴ Cedar Grove.

⁵ Zumwalt Meadow.

Next morning we faced the job of crossing Roaring River with our outfit. It was necessary to carry all our stuff over the rocks to the fallen log and across it. The distance was about a quarter of a mile and the way was rough, so but little could be taken at a time. When everything was over by noon we marshalled our forces to get the jacks over the ford. Lakenan and Fred took their stand on the opposite bank with one end of the rope, Bert's position was on an island in the middle, while Guy and I shoved the animals into the water. One by one they were pulled through the swift current, and while the others were getting them out of the brush, Bert, Guy and I hurried up to where the packs had been left to get them into order. By evening we were by the big log near the upper meadow. So high was the river during the evening hours that it often washed clear over the log, and crossing it with loads was no easy matter. We made camp under a group of large trees just across the river from the big meadow. Next day we had the jacks to get over the main river. Even when all were tied together the ropes would not span the stream, so we had to run across the log with a floundering half-drowned animal on the other end of the rope. Surprisingly, all came through without accident.

We remained in this beautiful camp at the base of Bob Ingersoll Rock⁶ for nine days. We spent some of the time fishing, some in hunting, some in exploring the canyon and the region round about, but most of the time in just enjoying the glory of the wilderness. At Copper Creek, a mile and a half above our camp, were two miners who, with the exception of Fox five miles below, were the only other people in the canyon. While in this camp we took our first observations on the sun for latitude, for the determination of the error of our watch, and measured the altitudes of some of the surrounding cliffs. The most strenuous trip that we made was one to the top of the Granite Basin divide.

We had hoped when we set out to go beyond the divide, and had visions of ascending Mount Goddard or reaching Tehipite, for we had not the remotest idea of the ruggedness of the Middle Fork area. Bert Dyer, Fred Pheby and I started up Copper Creek on the morning of July 11, taking with us food for three days, the transit and camera, but no bedding, as we thought we could rough it out by a campfire. There was a fair trail up Copper Creek, but

⁶ Now called North Dome.

it turned off toward Goat Mountain, though there was a faint track up the west side to Granite Basin. We crossed into Granite Basin in the late afternoon. This was completely filled with snow, and we were obliged to camp on a rock island in the snow that night, and a most miserably cold and sleepless night it was. Next morning we reached the top of the main divide, and one glance at the wild region to the north showed the impossibility of our going farther with our meager food supply. We rested a couple of hours, then returned to camp in the Kings Canyon. Again on the 14th, Lakenan and I went to the Roaring River Fall, and worked our way up the gorge above the fall for perhaps a half mile to a beautiful grove of alders. The following day Lakenan, Pheby and I went up the gorge of Kings River to Mist Fall, and then on up the canyon into Paradise Valley. There was of course no trail whatever, and it was a fiercely rough trip. Rather than face the brush and rocks on the return, we climbed over the west wall of Paradise Valley, along the base of Goat Mountain and went down Copper Creek to camp.

On July 16 Fox called at camp to say that he was going out to get supplies, so Guy Dyer went with him. Next morning we four packed and started up the canyon toward the east. It now became necessary to cross Kings River again above its confluence with Bubbs Creek, and this we found the hardest crossing yet. There was a big log jam across the river, and by the best sort of luck we were able to get over. Then came the tiresome job of carrying over all the pack outfit. After much trouble we got a rope across above the jam. As there was no shelving bank on our side of the stream poor old Roxy was led to the edge, shoved over the bank six feet high into deep water, and pulled on through by those on the other side. Then the process was repeated for each of the other two, and it was noon before everything was over. We found the trail terribly rough up Bubbs Creek and we were glad to camp at the top for the night before picking our way up to Charlotte Creek. The main trail followed this to Rhoda Lake,⁷ and it took the whole afternoon to reach the top. Here we rested a day, washed clothes, and fished. The fishing here was the best yet, and we got fifteen, each more than a foot long.

On July 20 we were all up extremely early, for we expected

⁷ Lake Charlotte.

trouble in reaching the crest of the Sierra and we wanted to ascend some prominent point from which to take observations. The faint remnant of a trail followed the present course to Bullfrog Lake, and at the extreme timberline we threw off the packs and with transit and camera hurried on to the crest of the Kearsarge Pass. After enjoying for some time the panorama from this point, we continued north to the first high peak,⁸ here to set up the transit, and take the usual round of observations.

Next day it was over Kearsarge Pass and down the long trail to Independence. Toward evening we stopped at the farm of John Baxter, near the edge of town, and asked for permission to camp. Mr. Baxter not only gave us permission, but turned our jacks loose in the alfalfa field, gave us all the peaches and honey we could eat, allowed us to sleep on the haystack, and even invited us to dine with the family.

After a rewarding side trip to Mount Whitney and the Kern Sierra, we toiled the long miles afoot through Owens Valley, arriving at Mono Lake on August 12. The next morning we went over Mono Pass. Just below the summit on the Tuolumne side there broke the most terrible thunderstorm that I have ever seen in the Sierra. Lightning struck every few seconds, and one tree under which we had just passed a minute before was blasted to pieces and set aflame. The ground was white with hail, and the rain continued all afternoon as we made our way down the Tioga Road, starting our westward descent toward Yosemite, the San Joaquin, and home. At Soda Springs old Lembert welcomed us, and we also met college friends who were weathering the storm at his cabin. It was a jolly crowd which gathered around the fire, and a thankful group which accepted the warmth and protection of Lembert's sheltering hayloft that night.

⁸ Mount Gould, 13,001 feet.



Kings Canyon National Park

A COLLECTION OF SIXTEEN PHOTOGRAPHS

BY CEDRIC WRIGHT





UPPER BASIN MEADOWS



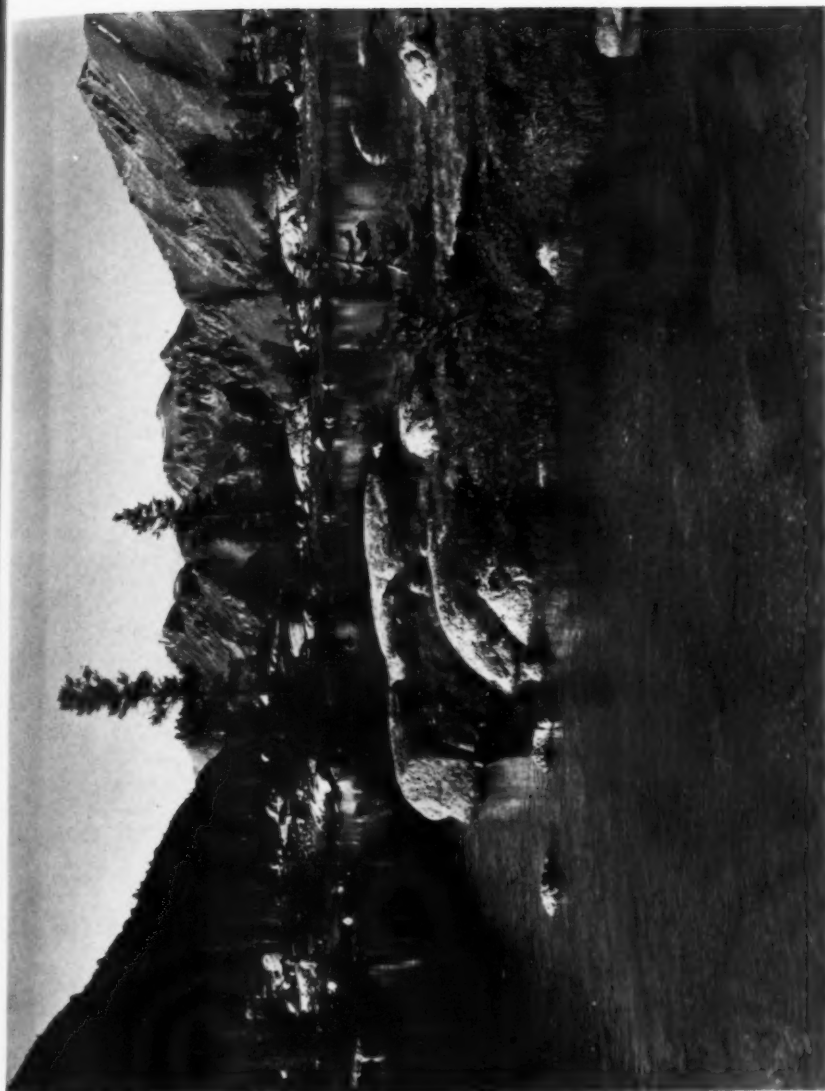
EAST VIDETTE

SKY FIL



SKY PILOT





SIXTY LAKE BASIN





ABOVE MIST FALLS













SIERRA GARDEN



Mountain Wind

THE wind comes up through the pass,
Whistling across the great blocks
Of time-worn, ice-polished stone.
A bird which has borrowed wind's wings
Soars upward in effortless flight,
As silent and weightless as clouds
That sail beyond the far peaks.
Primroses, bright in the sunshine
Against the black-speckled granite,
Nod as occasional gusts
Twist into sheltered recesses
Where bleakness is conquered by life,
And a chipmunk hurries across
An open space on the rock-slab,
His tail-plume ruffled by breezes.

This wind has come from afar
To bring its unspoken message
To the dreamer alone at the summit—
Up from the green-shadowed valleys,
Broad-floored, and heavily timbered,
And smelling of pines in the sunshine;
Up through the rocky-walled canyon,
Whose steep sides shake with the thunder
Of falls plunging whitely between them;
Across a broad, rocky basin
Where trees climb ever less surely
Above the green of the meadow;
And, finally, swiftly upcurving,
Rushing and swirling more strongly,
Sweeping at last through the rock-gap
And soaring high to the heavens.

BY CHARLOTTE E. MAUK

High and Dry—1940

By WELDON F. HEALD

TAKE 275 Sierra Club members.

Add eighty mules and sixteen packers.

Season with a resourceful management and an inspired commissary.

Stir constantly for twenty-eight days of perfect July weather.

Shake well up and down the peaks and valleys of Sequoia and Kings Canyon national parks.

Result: an unsurpassed High Trip—1940.

There were so many superlatives during this memorable month on the headwaters of the Kings and Kern that it is difficult to choose one above another. But I think the outstanding theme this year was coöperation. There was generous coöperation between the personnel to produce a smooth-running organization; unselfish coöperation on campfire entertainment; full-hearted coöperation during the trying days at Milestone; and even natural coöperation by the elements which smiled upon us from blue skies throughout the trip.

In these days we cannot help feeling that the energies of men are turned towards hatred and destruction. But our faith in human nature is restored when we find that a group of people, isolated from the world and held together only by a common love for the mountains, is composed of kindly, helpful, good-natured beings, each willing to contribute his share in a true and voluntary democracy. Probably all humans are coöperative at heart, but sometime in the past we took the wrong turning and are now caught in a vicious circle of doubt and misunderstanding. Perhaps the prescription for rebuilding a saner world is for each of us occasionally to forget the clamors and divided counsels of warring humanity and to camp out under the stars. There is room for one more initialed government activity, the RTNA—the Return To Nature Administration.

I know most of us felt that way around the campfire the first night at Zumwalt Meadow. We were wet to the skin after the five-mile walk from Cedar Grove in the pouring rain. But the rain

had stopped, we had left the troubles, fears, and quarrels of the world behind, and had come back to our real home once more. Nothing was important except that another High Trip had begun. That night we rolled up in our sleeping bags, looked up at the grim, black crags above us and listened to the wild music of Kings River. We smiled. The peace of the Sierra entered into us and we slept.

When we awoke next morning the storm was over and the clouds had disappeared. It was a perfect Sierra day. Although there were a few sprinkles two weeks later at Vidette Meadow, never once did it really rain again, so the 1940 High Trip will probably go down in Sierra Club history as the driest on record. The management can take a bow upon the efficiency of its weather department for, of course, "It never rains on a well-managed High Trip."

June 30 was a lazy, leisurely day at Zumwalt Meadow. An ambitious expedition of Joe Sharp's explored the high basin of Copper Creek, but most of us were satisfied to limber up our creaking muscles by wandering along the delightfully wooded trails on the valley floor.

We were glad of this opportunity to see Kings River Canyon in its natural state. Now that it is within a national park will this wild valley soon be overrun with roads, camps, and lodges everywhere? Our western wilderness is disappearing faster than we can explore it. May the time never come when the High Trip is made in buses and our climbs accomplished by aerial tramways.

Only a third of the high trippers had braved the dripping jungles of Kings Canyon during the storm of the previous afternoon. All day long the other two-thirds filtered in, alternating with strings of mules loaded with dunnage, until towards evening Zumwalt took on the appearance of a mushroom mining camp. At a quarter to six the long, familiar queues, armed with tin cups, plates, and gnawing appetites, began to form in front of commissary eager for the call of "So-oup!" Charlotte and Martin were ready for them. At last the party was complete and rarin' to go.

July 1 we moved ten miles up the Kings River to Paradise Valley. This "Low Sierra" trail threading the depths of the canyon, under the glistening wall of the Sphinx, past Mist Falls in flood-tide fury, and through the aspen woods and meadows of

Paradise Valley is one of the most impressive in the mountains. Even the most rabid high-country fanatics enthusiastically admitted it. Lunches and tea parties were frequent along the way; each vantage point and wooded glen seemed an excuse for another pause and more refreshment. Some sort of club record was established for the number of stops and the amount of food consumed. The last fascinated stragglers didn't get into camp until supper-time—and they were ready to eat again!

We camped three nights at the head of Paradise Valley just below the junction of Woods Creek and Muro Blanco. The site was a rocky ledge of miniature palisades perched above the roaring Kings. Second and third class routes were worked out between men's camp and commissary, but most of us considered belays unnecessary even for the dunnage bags.

But there were serpents in our Paradise. I believe the balance of nature was disturbed by the disposal of eight rattlesnakes before we moved to higher country. Fried rattler was passed around at dinnertime with the assurance that it was almost as good as something else. But the only live snake most of us saw was the harmless "lost and found" reptile Ike Livermore produced from his ten-gallon stetson.

The days at Paradise were interesting, but not too strenuous. Muro Blanco gorge was thoroughly explored. Rock-climbing practice got under way on the granite cliffs east of camp. Norman Clyde led a party up the supposedly virgin Kid Peak. Arrow Creek with its falls and lakes drew a tea party or two. But to the majority the heights beckoned in vain. It takes a few days to become vertical-minded; we were still earth-bound horizontalists.

Night life, however, came into its own at Paradise. Campfire entertainment was organized under the direction of Helena Nelson who deserves our thanks for her well-arranged programs. Old campfire favorites appeared once more and new talent was discovered. Cedric Wright and his violin, on their twenty-eighth High Trip, treated us to firelight concerts under the pines. A popular group lead by Ollo Baldauf sang lively German and Austrian airs accompanied on the accordion by Trude Gunther. One of these singers was Ernst Arnold, whose authentic, imported yodel became the envy of Bruce Meyer and the other rock-climbers. Octavia Wilson was another violinist who generously contributed

to our enjoyment. Ike Livermore's and Peter Joralemon's accordions accompanied many voluntary choruses far into the night. In fact, this year singing was more popular than ever. Seventeenth-century rounds and Teutonic drinking songs broke forth from every peak, pass, and lonely lake whenever four or more lusty throats got together. It is impossible to mention all the nights of friendliness and good cheer around the glowing piles of logs built by the freshmen campfire engineers. Francis Farquhar talked to us on the history of the Sierra; Earl Dillon on the geology; Leland Curtis about his experiences in Antarctica; and, of course, Doctor Crowe gave us the latest gossip about his fascinating, but slightly disreputable friend, Margie. We were sorry that Harold Bryant could not be with us longer, but the duties of establishing the new national park obliged him to leave us after three days.

The next move was six miles to the forks of Woods Creek. This was to have been a one-night stand, but two lady Corriganes became involved in the intricacies of Muro Blanco and did not show up at the new camp that evening. During the night searchers came and went, lights danced through the woods and on the mountainsides, horsemen followed all the trails, but the girls were not found. We finally went to sleep imagining the two hanging from some cold and awful crag—or worse—but nothing more could be done. The next morning a search party discovered them at a camp down Woods Creek having a hearty breakfast of scrambled eggs after a comfortable night. When the stray lambs returned to the fold, it was too late to move on.

We managed, however, to keep busy. Woods Lake and our last year's campground were only six miles away by easy trail. Window Peak attracted the climbers. The route out of camp was an expedition in itself—the swamps, bogs, streams, woods, rotten logs, and tree-bridges made excellent practice for those interested in trail-finding technique. But it was fortunate that we were moving on. Murmurs of “hole-in-the-ground camps” rose on all sides, while some of us had that glassy, faraway look denoting *timber-*limitis**. The only known cure for this disease is a diet of high camps, mountain lakes, with snow-splashed peaks against the sky.

July 6 was liberation day. We were off early for the eight-mile walk to our next camp in Sixty Lake Basin. High country at last! The altitude of 10,500 feet released our dormant mountaineering

energy in an orgy of peak-climbing. Dave Brower's department was the busiest in camp as an offensive was carried on against the surrounding heights. But, not only the mountaineers had a good time at Sixty Lake Basin. The fishermen ran from lake to lake trying to find which of the sixty was best. The meadoweers were in their element with miles of interesting country to explore. Nights were cold, but they were just what we had asked for, weren't they?

Before humans and stock could be moved over into Bubbs Creek basin the snow on the Glen Pass trail had to be shovelled out. A group of stalwarts volunteered to do the job, hiked the ten miles round trip to the pass, and put in a full day's work. They were duly rewarded upon their return to camp—Martin had baked them a mammoth cake. Coöperation again—all around.

At 4:30 A. M. on July 10 the Wolf Call sounded. We reluctantly crawled out into the cold gray dawn and shiveringly dressed. Sometimes we wonder why we do such things, and this was one of the times. But a hot breakfast restored circulations somewhat, and a sparkling early morning walk brought us to the top of Glen Pass. By then it seemed to be the world's most engrossing occupation to be sitting atop a 12,000-foot pass, looking down upon shimmering blue lakes, across to the rocky cone of Mount Brewer. We who arrived early by the long route sat basking in the sun, our attention divided between the view and those ant-like beings far below laboring over Dick's short cuts. When the first string of mules appeared on the snowfields down the trail it was time to descend from our high perch, south down the John Muir Trail past two interesting pothole lakes, by Charlotte Lake, and down the final 1000-foot plunge to Bubbs Creek. In a lodgepole pine forest under East Vidette we made our halfway camp.

The morning before the first two-weekers left a grand auction was held with Dick Wagner officiating. Many valuable articles changed hands—from automatic self-pitching tents to tooth paste and chewing gum. But the liveliest trading was in cigarettes, flat fifties selling as high as a dollar and a quarter. That evening the annual Freshman Show was given. It included a fierce and realistic mosquito chorus. We all stayed late around the campfire afterward, realizing it was the last time this same happy crowd would be together. A definite part of the trip was over. Two weeks already! Where had the time gone?

Vidette Meadow is the center of one of the grandest regions in the High Sierra. There was a trip a day for everybody. Almost to a man and woman we had to go to East Lake to inspect the future site of Oliver Kehrlein's luxurious base camp. It was approved unanimously. Then there were expeditions to Kearsarge Pass and the alpine basin of Vidette Creek, as well as many climbs on the peaks. The fishermen were busy at Bullfrog, Charlotte, and Kearsarge Lakes and along Bubbs Creek where it roared past our camp. This year a daily fish census was taken. About 3000 trout were caught during the twenty-eight days of the High Trip—something like half a fish a day per person. The Sierra Club probably catches less fish per person than any other party in the mountains. Hang your head no more over the charges that we deplete the fishing grounds—stick out your chin and confound the carpers with statistics.

On July 15 we moved four miles up Bubbs Creek to Center Basin, where the second two-weekers, who had left Cedar Grove the day before and camped a night at Charlotte Creek, joined us. Center Basin was a magnificent campsite situated in open timberline country under a crescent of 13,000-foot peaks. At night when the moon rose over the rugged shoulder of Center Peak the glacier-polished rock walls shone with streaks of silver. But it was cold. Each morning we found films of ice coating the water in basins and buckets left overnight. At Center Basin it wasn't difficult to sympathize with the Tibetans; in fact, a bath a year seemed excessive.

Everyone had been looking forward to Foresters Pass—and no one was disappointed. On the 17th we found that this 13,000-foot gap in the Kings-Kern Divide lived up to advance notices. It is a spectacular gateway between two worlds: to the north, the jumbled, mountainous confusion of the Kings; on the south the open, rolling high country of the upper Kern. A typical Sierra Club social hour was held at the top. The babble of a hundred voices could be heard a mile below on the trail. After a last piece of hardtack and a final look to the north we descended into Sequoia National Park by amazingly engineered switchbacks blasted out of the high, massive cliff. The trail traversed sparsely timbered, wind-swept uplands with a distant background of the highest summits of the Sierra. The grim Kaweahs loomed ahead while

the hunchbacked monarch of all, Mount Whitney, played hide and seek with us over the lower ridges. At Tyndall Creek we turned off the John Muir Trail and cut cross-country to our camp under the gigantic rock finger of Milestone Mountain.

The unfortunate events at Milestone have previously been fully reported by Dick Leonard, so I need not go into details here. I only want to remark again that it was during these difficult days that the true coöperative spirit of the whole party was shown. I believe all of us who were at Milestone would be willing to give a sincere vote of confidence to Dick Leonard and his associates. There was a great responsibility requiring quick decisions. I believe in every case they made the right ones.

The Milestone camp was strung along the creek somewhat on the order of an Arizona copper town. Its different sections were separated from one another by impenetrable thickets, raging torrents, rocky ledges, and fallen logs. By the time we had discovered the easiest route from place to place it was time to move on. On July 21 we moved to the upper Kern-Kaweah. The mountaineers among us dropped down upon the new camp after traversing Milestone Mountain or crossing Kern Ridge, but the majority took the more leisurely thirteen-mile route by way of Junction Meadow.

Artistic and sporting instincts became pronounced at Kern-Kaweah. Commissary took on the packers in a double-header ball game for the Kings-Kern pennant. "Exhaustos," Ansel Adams' gripping Sierra tragedy, was performed by an all-star cast under the capable direction of "Jimmie" James. Newton Bell gave his laugh-provoking mountaineering classic, "Ascent of Popocatepetl." Wayne Smith, campfire impresario for the second two weeks, should be proud of his ability as a talent scout.

On July 24 the whole party took Colby Pass like well-trained greyhounds, and, pausing only long enough on the 12,000-foot summit to enjoy Bob Thompson's snow sherbet, dropped down into Kings Canyon National Park. At beautiful Colby Lake we lunched and fished before the final plunge into the deep gorge of Cloud Canyon. Camp was made in the meadow below the Whaleback, and all was made ready for the famous annual High Trip field day. Even the climbers stayed in camp next day displaying their sleek, rippling muscles in various athletic contests. The unusual sporting events ended with a tug of war in which the Gale

Siegal tuggers pulled the straining Bob Schmidters into the icy middle of Roaring River. For the more sedentary there were art exhibits by Leland Curtis and Albert Marshall, a colorful bandanna display, a hat contest, and a whiskerino with prizes for the most virile chin wilderness areas. The afternoon wound up with a tea dance on a big flat rock near campfire. Social festivities were carried on far into the night around individual campfires which glowed among the trees and on the slopes above camp.

With heart-rending cries of "woe!" we got up at 5:00 A. M. on the 26th for the eleven-mile walk to our last camp at Sphinx Creek. Cloud Canyon is a sunless place in the early morning, but after we had thawed out on the trail we enjoyed one of the most delightful days of the entire trip. We took a short cut high on the east slope of the canyon, through meadows and gigantic red firs, joining the main trail again at Avalanche Pass. Our progress resembled hare and hounds as we threaded dim stock trails, always following the "orchid" hanging from trees and rocks. The use of these cheery trail markers was an inspiration of Dick's and Raffi's when the stock of arrows was gone. It was unfortunate that most of us missed the outlook over Kings Canyon a quarter of a mile off the trail at Avalanche Pass, but the views up Cloud and Deadman canyons were enjoyed by everyone. We had seen a lot in the past month anyway.

Sphinx Creek was a busy place—a last camp always is. A final cleaning and scrubbing up was indulged in, although the men had some difficulty locating a stream not already appropriated by the ladies. Complicated announcements about buses and transportation were made. A thousand questions were asked about everything. Addresses had to be exchanged. Amid the general confusion the right people had to be found to which those last things must be said, if they were to be said at all. Favorite songs had to be sung around the campfire. Then we rolled up in our sleeping bags, looking long at the stars through the branches of the lodgepole pines for the last time.

On the morning of the 27th we were off early down the zigzags to Kings Canyon and the world beyond. The valley floor seemed stifling and dusty as we trudged towards Cedar Grove. The air was heavy to breathe for us beings from the upper world. Even the people we met on the trail or whose luxurious camps we passed

appeared to be city dwellers temporarily playing primitive. Yes, we saw it would take some time to get used to these queer low-country customs.

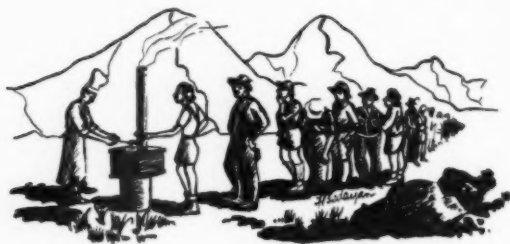
Two miles from Cedar Grove was the last camp for those not going out until the next day. Oliver Kehrlein was there gathering together his flock for the two weeks' Base Camp at East Lake. Although we secretly wanted to turn back and go with him we plodded through the dust to Cedar Grove. At last we turned a corner and saw ranks of parked cars, stacked dunnage, strings of mules, and crowds of people. It was the end of the trail. The trip was over.

Since we had last seen Cedar Grove we had covered 200 miles on foot, crossed four high passes, and climbed many peaks. We had had no roof over our heads, seen no houses, roads, nor automobiles. We hadn't heard a radio nor read the news each morning in the paper. We didn't even know each other's politics and we didn't care. For a month none of these things had seemed important because we were seeing the world with a perspective much closer to our real selves. We had gained a peace and understanding which only the mountains can give.

I asked a friend at Cedar Grove what had gone on during our absence. He seemed somewhat at a loss.

"Oh, I don't know," he said. "About the same kind of thing as before you left."

You see? We hadn't even missed anything!



The End of the Rope

By BLANCHE STALLINGS

LEARN to rock-climb on Table Mountain! Take a lesson up there above timberline on rain-washed granite, with your nose pressed against a real polemonium; with sunshine and blue sky above you and the High Sierra spread out below you!

I wanted to climb a peak, but was properly timid about attempting to do so. Finally, however, I went to a session of the Polemonium Club up at Vidette Meadow to get some practice. Did I get it? I should say not! I sat on a big rock above the stream and watched the "Polemoniums" climbing on a near-by cliff. Every time one of them leaned over the top edge I had a 'sinking feeling; when one of them fell and swung on the rope I gripped the rock. The sun was gone and the wind was cold; I shivered and decided it would be some time before I could tackle a real mountain. Somehow I would have to work up to it gradually. It would take time, and thought, and practice.

Having settled the matter intelligently, I joined a party a few days later that was going up to place a register on top of Table Mountain. Just why I did I'm not sure, but I had the impression that I could drop out of the party quietly when things got too complicated. And I suppose I could have dropped out too, almost any time—or dropped off of the peak—but I didn't want to, once I got started.

There was a lot of cross-country, and talus, and a blue lake or two and a frozen one, and a little stream. Most of all, there were the chute and the descent. That's where I was really in for it. I struggled, and slipped, and whimpered, and all but wept; sprawled on the cold hard rock and shivered in the cold wind; reached for handholds that I couldn't hold on to and hesitated at almost every move as long as I dared. I was humiliated and embarrassed, and knew I shouldn't have come; I didn't dare look down or even think about where I was; and I simply *loved* it!

There was the feeling of clean rough granite in my hands; and stretching for footholds 'way down below which I couldn't see and knew I couldn't reach, and which I finally did feel, small but solid and adequate, under my hob-slivers. There was the corsage

of polemonium on a gray granite wall; the clump of it in the chute; the blossom of it, broken off by the rope, which made a small, fluffy handful of delicate, fragrant blueness. There was the feeling of coming up out of the cold, drafty chute into the delicious warm sunshine. There was the serene stillness of the summit.

Then there were the rock-climbers in action. The way they climb, easily, gracefully, without rolling a pebble! The way they help you with just the right amount of criticism, praise, and quiet encouragement; the way they tell you what to do in a low, steady, cheerful voice that makes you feel as if it were possible; the way they discuss climbing technique up there a hundred feet above nothing; the way they take it for granted that you're going to make it!

There were lessons to be learned too; about friction, for instance. Now that was something I needed, but didn't have much of because I had nails under foot instead of crepe. The nails were good on the snow though. I fell down only once. I met my first chockstone—the pretty little cube of granite that started down the mountain and got stuck in a crack. I heard about cross-pressure, and one of the climbers said I was using it once, but I'm not sure just what was being referred to. I found that a chute is a place for concentration, not speculation; that frills and ornaments seem superfluous up among the crags and spires; that you need a few essentials, but most of all lots of control, and muscles that you can trust, and a good grip, and plenty of patience.

Not least of all, there was the rope, coiled and slung over the shoulder of the leader, uncoiled and dropped down into the hollow stillness of the chute from up above somewhere out of sight. Now if I ever reached a point where I was at the end of my rope because I just didn't know the ropes, it was on Table Mountain. Under those circumstances, then, what a relief to be tied onto the end of a real rope, and to know that there were some darn good climbers on the other end!

Besides all that, there was yodeling in what surely must be its native atmosphere—on the summits with range upon range of blue mountain peaks for echoes. Of course, I suppose the distant peaks don't have to be blue. They happened to be when we were up there, but no doubt purple, or rose, or gray ones would echo the yodels just as well.

All in all it was a memorable day. Fortunately, however, I didn't feel too successful when I got back to camp that night. I was happy, and relieved, and grateful to the rock-climbers, but I thought to myself: If I ever get up high enough again to sign my name in a Sierra Club register, I hope I shall have attained that honor as a rock-climber, not as a barley-sack.

That's the way with the mountains though. Whether you're successful or not, there's always a call to come back again; a call to test your strength on the steep trails, the snow-covered passes, the jagged peaks; to test it, and when you reach your limit, to stop and look beyond the shining summits; to look and find that the limit is not there; then to pick up your knapsack and go on climbing.

Early History of the Kings River Sierra

By FRANCIS P. FARQUHAR

NEVER has the region included in Kings Canyon National Park been used by human beings for permanent dwelling places. Long snowy winters, scarcity of natural foods, complete absence of tillable soil, combined with inaccessibility, have placed it beyond the line of marginal lands both for primitive and for civilized man. Yet, for a brief season of the year this otherwise unproductive land is teeming with life-giving elements—truly a land of recreation. Here, on heights above the main level of the world, is security and peace for body and soul. Here are forests unrivalled in the grandeur of their trunks; meadows pleasing to the eye, soft to the tread of foot; flowers of brightest hue filling rock-crevices or luxuriantly mingling with ferns and grasses in hanging gardens upon the long slopes of mountains; smooth rocky platforms, where little blue-bellied lizards and shrill cicadae bask in the warmth of the sun; water, pure and sparkling, infinitely varied and ever-changing in its forms; and over and above all, the vault of heaven, sometimes magnificent with clouds, more often unfathomably blue by day, crusted with stars by night.

The Indians long ago knew the merits of this High Sierra region as a summer camping-place. On particularly favorable locations, such as level gravelly spots a little above quiet pools in the river, one may today frequently find little chips of obsidian and occasionally a well-made arrowhead, perhaps with skillfully serrated edges. If nearby there are a few round shallow holes in the granite bedrock, one may be sure that he is on the site of an Indian summer-camp or *rancheria*. The Indians who enjoyed these camps were doubtless much like the Indians of Yosemite and of the Kaweah, to the north and south, respectively, and we may reasonably conjecture that they migrated in small bands each summer from the hot valleys and foothills of the San Joaquin and Kings rivers. They brought acorns and acorn meal with them and completed their diet with grasshoppers, fish, and small game. Occasionally, small bands or a few individuals of the Paiute tribes east of the Sierra would make their way across the passes and establish contact with the Yokuts of the west, and there is some

evidence that a few of these Paiutes remained on the west to form one or two small isolated communities. The Yokuts also sent traders eastward, at least as far as the Sierra crest. One of these trading routes, perhaps the principal one, led through Kings River Canyon, and one may picture in imagination, with some confidence in a resemblance to actuality, this primitive commerce in acorns, buckskins, abalone shells, and shell ornaments, on the one hand, volcanic glass, salt, and piñon nuts, on the other—all transported in baskets of excellent weave.¹

How long this uneventful life went on is not known. There are no deep-buried relics to suggest great antiquity—not even fossilized skulls, giant footprints, or evanescent Limurians. It may well be that hundreds of sequoias now standing in the Kings River groves had attained substantial girth before the first sound of human voice was heard in their midst.

The first white men to see this region, beheld it from afar, admired it, but left it undisturbed. Fages, in 1772, Garcés, in 1776, and presently others who entered the central valley observed the forested slopes surmounted by snowy peaks.² In January, 1805 (or 1806?) a small party of Spaniards exploring the valley camped on the banks of a river on the day of Epiphany. As was customary they gave to the river the name suggested by the church calendar, *el río de los Santos Reyes*, the river of the Holy Kings, that is to say, of the Three Wise Men, or Magi.³ Thus was the Kings River named. Many years later, Americans, ignorant of the meaning, frequently wrote "King's River," but nowadays the correct form is generally understood and used.

Although Spanish Californians from the missions and presidios often visited the central valley during the first quarter of the nineteenth century, it is quite certain that they never penetrated the mountains beyond. They saw the high peaks, of course, and came to have a pretty fair notion of the river systems and general character of the high country, as is indicated by a perspective of the

¹ "The Yokut Indians of the Kaweah Region," by George W. Stewart, in *S. C. B.*, 1927, 12:4, pp. 385-400.

² In *the South San Joaquín Ahead of Garcés*, by Herbert Eugene Bolton, Bakersfield, Kern County Historical Society, May, 1935.

A Historical, Political, and Natural Description of California by Pedro Fages, Soldier of Spain, translated by Herbert Ingram Priestley, Berkeley, University of California Press, 1937.

³ "Spanish Discovery of the Sierra Nevada," by Francis P. Farquhar, in *S. C. B.*, 1928, 13:1, p. 58.

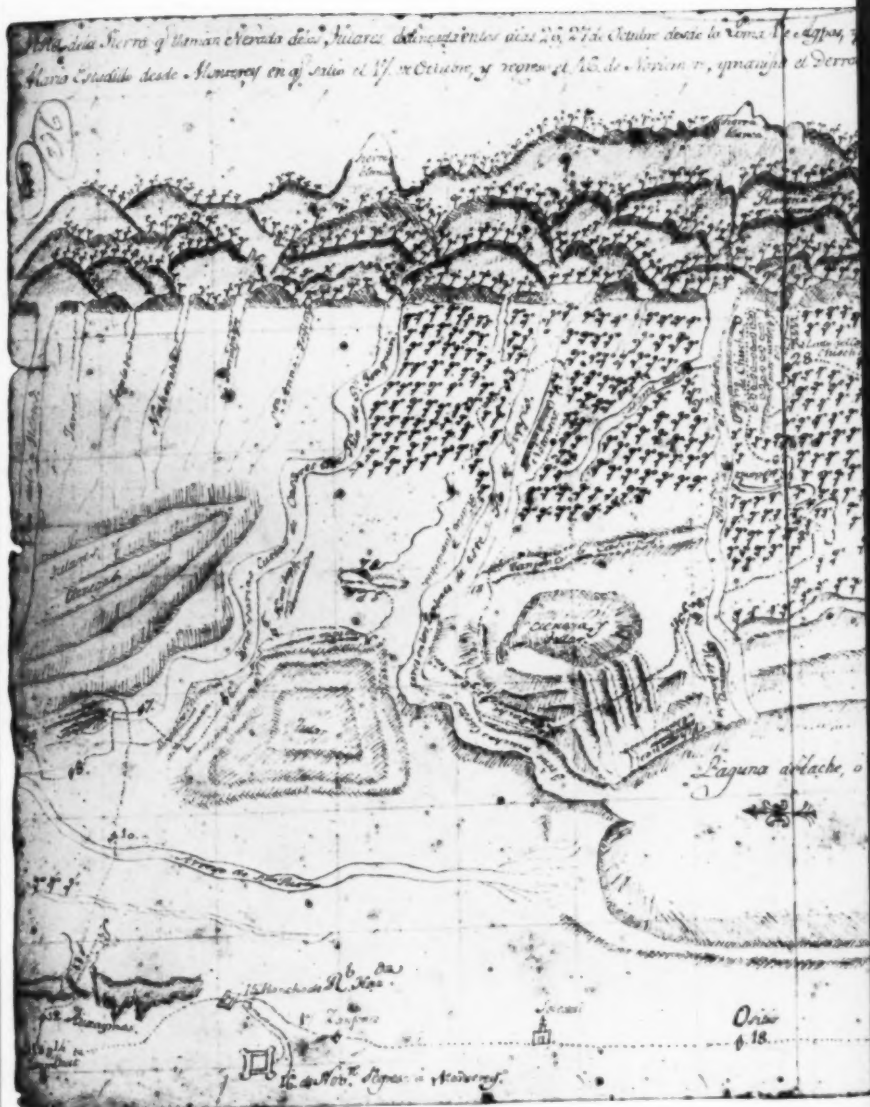
High Sierra made by Lieutenant Estudillo in 1819.⁴ In this sketch the embouchements of the San Joaquin, the Kings, the Kaweah, and the Kern are clearly shown. Moreover, there are two prominent peaks marked "Sierra Blanca," namely "White Mountains." The northern one is unmistakably a representation of Mount Goddard, the other is perhaps intended for the Kaweah Peaks. Thus we have what is probably the earliest topographical representation of the territory now embraced in Kings Canyon National Park.

Beginning with the year 1827 the American trappers and explorers began to pass through the valleys on each side of the Sierra. Jedediah Smith was the first to come and was the first white man to cross the range. Although the place of his crossing was farther north than the region of the park, there is good reason to believe that he made an attempt to cross by way of the Kings or the San Joaquin. It was in the spring. The snow was deep, his animals floundered and some of them starved. He did not get very far before he was compelled to return to the valley. A more definite location can be assigned to the next known attempt to penetrate the High Sierra in this region. Frémont, in December, 1845, endeavoring to carry out a rendezvous with Talbot and Walker on the river known to them as "Lake Fork," led a small band of his men far up into the granite country. He says he reached an elevation of 11,000 feet. An examination of Frémont's maps and reports forces the conclusion that he was in the basin of the North Fork of Kings River—very close to Kings Canyon National Park, but at no time within its boundaries.⁵

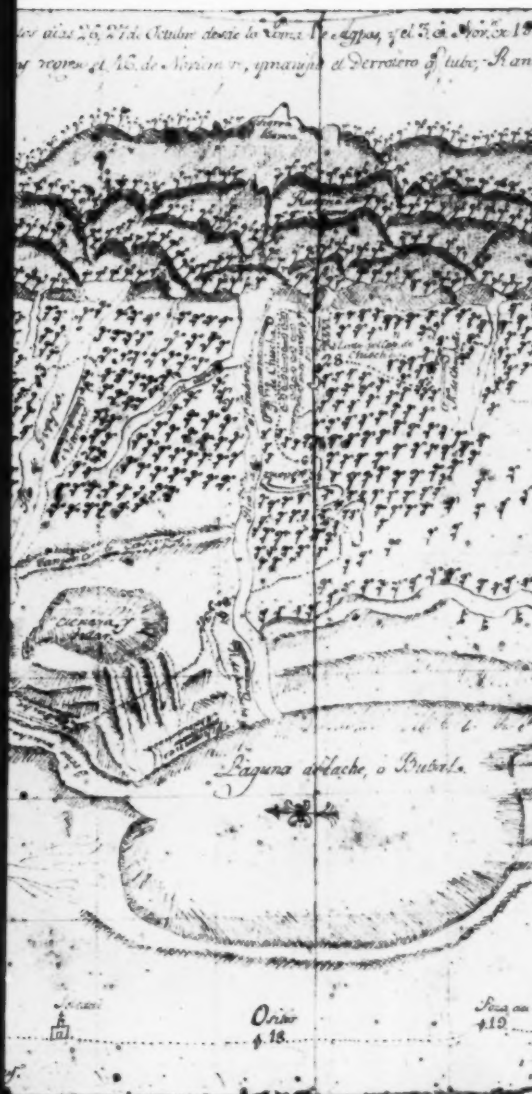
The migration of homeseekers and goldseekers which brought thousands of people into the more northerly regions of the Sierra had practically no effect upon the Kings River Sierra. Its lofty eastern passes provided no routes for immigrants and its stream beds yielded scarcely a flake of "color." There is not a relic of '49 within the confines of the park or even along the roads approaching it. For a little while longer it was destined to remain the resort of red men rather than of white. Indeed, for a time it was a sanctuary, more secure than that of the Yosemite tribe. In the spring of 1851, when the Mariposa Battalion was pursuing the

⁴ "Sketch map of exploration in the San Joaquin Valley by Lieutenant José María Estudillo in 1819," in Priestley, *op. cit.*

⁵ "Frémont in the Sierra Nevada," by Francis P. Farquhar, in *S. C. B.*, 1930, 15:1, pp. 74-95.



SKETCH MAP OF EXPLORATION IN THE SAN JOAQUIN VALLEY, BY LIEUTENANT JOSÉ MARÍA ES
 Reprinted from *A Historical, Political, and Natural Description of California*, by Pedro Fages, Soldier of Spain, translated
 Courtesy of the University of California Press.



VALLEY, BY LIEUTENANT JOSÉ MARIA ESTUDILLO. 1819.
 California, by Pedro Fages, Soldier of Spain, translated by Herbert Ingraham

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Yosemite Indians into their stronghold, one company, under Captain John Kuykendall, was assigned to round up the Indians of the Kings and Kaweah regions. The Indians fled to the mountains and the soldiers pursued. Bunnell quotes Kuykendall as follows:

They fled into a worse country than anything before seen in our explorations, and I soon perceived the folly of attempting to follow them longer. As to this region east and southeast of the termination of our pursuit, I have only this to say, that it is simply indescribable.⁶

Bunnell goes on to say:

The stories told by the men in Kuykendall's command were received with doubts, or as exaggerations. Their descriptions represented deeper valleys and higher cliffs than had been seen and described by scouts of other companies.⁷

Whether the Mariposa men looked into the great canyon of the Kings or not we do not know, but at all events it remained a mystery for a few more years. I have not found any claim to its discovery before the year 1858, when according to Chalfant, historian of Inyo County, a Tulare man named J. H. Johnson and five comrades were piloted across Kearsarge Pass, west of Independence, by a Digger Indian.⁸ As they could hardly have come from the western side of the range without passing through the canyon, we may accept this date tentatively as that of the first recorded visit of white men to Kings River Canyon.

In the year 1864 the history of the Kings Canyon National Park region becomes something more than vague surmise. The State Geological Survey, under Professor Josiah Dwight Whitney, had been at work in California for three and a half years before it was able to give attention to the region of the High Sierra south of Yosemite. High peaks were known to exist in this part of the range, and to reach them was one of the objectives of the field party that left Visalia for the mountains early in July. The names of the members of this party are deservedly placed on five peaks of the Sierra, four of them within the limits of Kings Canyon

⁶ *Discovery of the Yosemite and the Indian War of 1851 which led to that Event*, by Lafayette Houghton Bunnell. Chicago, 1880, pp. 138-139; fourth edition, Los Angeles, 1911, pp. 143-144.

⁷ Bunnell, *op. cit.*, 1880, p. 140; 1911, p. 145.

⁸ *The Story of Inyo*, by W. A. Chalfant, (Bishop), 1922, p. 76; revised edition, 1933, p. 124.

National Park—William H. Brewer, James T. Gardiner,⁹ Clarence King, Dick Cotter (the packer); and Charles F. Hoffmann, whose name-peak is in Yosemite National Park. Near the General Grant grove of big trees they found a small steam sawmill, known as Thomas' mill. Presumably, it had not been long established, for cutting of the big trees had only begun and as yet there was no sign of the devastation soon to spread over many acres of this superb forest. On their way farther into the mountains the survey party camped near Big Meadows, where Brewer remarked upon the forerunners of those herds of cattle which have ever since been part of the summer landscape of the Roaring River country. The year 1864 was a very dry year and the unprecedented drought caused settlers in the San Joaquin Valley to seek pasturage for their stock high up in the Sierra. Deer hunters are also mentioned. The Sierra was becoming crowded.¹⁰

For several weeks the survey party under Brewer explored the region now embraced in the park. They went down Sugarloaf Creek to Roaring River (which they called the South Fork of Kings River), observed the great gravelly moraines there, camped at the base of Mount Brewer, and ascended and named that peak. King and Cotter made their celebrated crossing of the Kings-Kern Divide and ascent of Mount Tyndall. One landmark of their return trip is definitely identifiable—Reflection Lake.¹¹ Upon the return to Big Meadows, King left the party, while the others, augmented by a detachment of seven soldiers sent from Visalia to form a guard against Indians, set out for the great canyon of Kings River. On the way, perhaps at Horse Corral Meadow, they "came on a camp of half a dozen men, prospectors who had crossed the mountains from Owens Valley and had worked their way thus far. Never before were so many white men in this solitude. Three of them were going back, and luckily for us, showed us the way into the canyon of Kings River."¹²

More than fifty years later one of these prospectors, John

⁹ During the early part of his life Gardiner spelled his name without an *i*. The later spelling is used here as it is the established family name.

¹⁰ *Up and Down California in 1860-1864, the Journal of William H. Brewer*, edited by Francis P. Farquhar. New Haven, 1930, pp. 512-521. Geological Survey of California; *Geology*, Vol. I, "Report of Progress and Synopsis of the Field-work, from 1860 to 1864," 1865, pp. 365-371.

¹¹ Brewer, *op. cit.*, pp. 522-527. *Mountaineering in the Sierra Nevada*, by Clarence King. Various editions, 1872, 1874, 1902, 1935.

¹² Brewer, *op. cit.*, p. 529.

Keough, recounted his experiences to three visitors who called at his home in Independence.¹³ There were six in the party which crossed Kearsarge Pass—Little Pine Pass, they called it then. They went down stream to the canyon, where they met "a number of scientists headed by Professor Brewer." A few words from Keough's account of the struggles of his party to return across the mountains will suffice to indicate the courage and toughness of these pioneers as well as the kind of country they had to deal with:

We picked our way along with the animals, but the country kept getting rougher and rougher—deep canyons and precipices, a terribly rough, bouldery country—all bare granite. . . . Finally we got into a canyon full of boulders, where we could neither get our horses one way or the other. They were so worn out and hungry we finally killed them. . . . We lived entirely on horse meat. I don't know how horse meat might be with a little salt, but it certainly is not very nice without salt. . . . In working down into one canyon, thousands of feet deep, we had to slide down a water-run. Sometimes we would slide thirty feet and fetch up on a bench, throwing our blankets on ahead.

The fact that they ultimately reached Owens Valley by way of Taaboose Pass shows that they had crossed or passed through in some way the tremendous canyon of the Middle Fork of the Kings.

Meanwhile the surveyors continued their explorations in the region of Kings Canyon. Brewer's description is the earliest, and among the best we have of this portion of the present national park.

We got into the canyon of the South Fork of Kings River, and forded the stream, which is quite a river where we crossed, and camped at a fine meadow in the valley. [Zumwalt Meadow?] It was a very picturesque camp, granite precipices rising on both sides to immense height. The river swarmed with trout; I never saw them thicker. . . .

We left there the next morning and worked up the valley about ten miles. Next to Yosemite this is the grandest canyon I have ever seen. It much resembles Yosemite and almost rivals it. A pretty valley or flat half a mile wide lies along the river, in places rough and strewn with boulders, and in others level and covered with trees. . . . The whole scene was sublime—the valley below, the swift river roaring by, the stupendous cliffs standing against a sky of intensest blue, the forests through which we rode. . . .

¹³ *S. C. B.*, 1918, 10:3, pp. 340-342.

We camped at the head of this valley by a fine grassy meadow where the stream forked. [Changes from meadow to thicket are not uncommon in such canyons. The site must have been at the junction of Bubbs Creek and the main South Fork.] On both sides rose grand walls of granite about three thousand feet high, while between the forks was a stupendous rock, bare and rugged, over four thousand feet high. We luxuriated on trout for the next two meals.¹⁴

The surveyors now made an effort to reach Mount Goddard, that notable landmark of the central Sierra. But the Indian trail up Paradise Valley was impassable for animals and the long climb up to Granite Basin yielded nothing but a view of "a precipitous descent to the north, into the canyon of the middle fork, which is perhaps even deeper than the one just described." Giving up the attempt to proceed northward through the mountains, Brewer and his men decided to cross into Owens Valley and attempt to reach the head of the San Joaquin by a pass which they had been told was used the year before by soldiers in pursuit of Indians. The difficulties of climbing out of the canyon by way of Bubbs Creek are described by Brewer:

We resolved to follow [the prospectors'] trail, assuming that where they went we could go. . . . We started and got about eleven miles, a hard day's work, for we rose 4300 feet. First we went up a steep, rocky slope of 1000 to 1500 feet, so steep and rough that we would never have attempted it had not the prospectors already been over it and made a trail in the worst places—it was terrible. In places the mules could scarcely get a foothold where a canyon yawned hundreds of feet below; in places it was so steep that we had to pull the pack animals up by main strength. . . . We then followed up the canyon three or four miles and then out by a side canyon still steeper. We camped by a little meadow, at over nine thousand feet. Near camp a grand smooth granite rock rose about three thousand feet, smooth and bare.¹⁵

The side canyon was that of Charlotte Creek and the smooth rock still compels admiration from all who pass that way.

In the succeeding years of the decade a few hunters or prospectors must have visited the solitudes of Kings River Canyon, for later travelers speak of guides, and there is indication of an

¹⁴ Brewer, *op. cit.*, pp. 529-530.

¹⁵ Brewer, *op. cit.*, pp. 533-534.

early knowledge of the outcropping of copper ore on the east side of the tributary since known as Copper Creek. The next definite account of the canyon comes from Judge Winchell, of Fresno, who visited it in September, 1868.¹⁶ The Winchell party entered the canyon by way of Horse Corral and Summit meadows, camped at Cedar Grove and opposite the mouth of Roaring River. Upon these and many other features of the canyon they bestowed names scarcely one of which has been perpetuated through usage, although perhaps in some instances deserving of revival.

The year 1873 marks the first visit of John Muir to the southern portion of the Sierra and the beginning of his enthusiasm for the region which he later so loudly praised as worthy of recognition as a national park. With Dr. Albert Kellogg, botanist, and William Sims, artist, he entered the canyon by the well-known General Grant Grove, Horse Corral, Summit Meadow route. He was impressed by the correspondence between many of the features with those of the Yosemite Valley, so much so that he at once began to use the word *yosemite* as a generic term—"the Merced yosemite," "the Kings River yosemite." Leaving his companions in camp, he set out alone for the high peaks. The scanty references in his journal and letters make it difficult to follow his course precisely, but it is clear that he went up Bubbs Creek to Center Basin, climbed two peaks, spent a night at timberline without blankets, and the following day climbed a peak which he supposed was Mount Tyndall.¹⁷ That it must have been one of the peaks of the Kings-Kern Divide or of the neighboring main crest—Junction or Keith—seems to be proved by his statements that he reached the summit at nine o'clock in the morning and that he overtook his friends at sunset a mile beyond Kearsarge Pass. However, one cannot be certain, even with the evidence of his diary and its dates.

Two years later Muir returned to Kings Canyon on an expedition that provided a better opportunity for enjoying its beauties. Pursuant to arrangement, his account of the expedition appeared in a San Francisco newspaper as a letter "from our own correspondent." It is reprinted in full elsewhere in this number of the

¹⁶ "Kings River Cañon in 1868," by E. C. Winchell, in *S. C. B.*, 1926, 12:3, pp. 237-249. (Reprinted from the *San Francisco Morning Call* of Sept. 11 and 12, 1872.)

¹⁷ *The Life and Letters of John Muir*, by William Frederic Badè, Boston and New York, 1923-24, Vol. I, pp. 391-393; also, *John of the Mountains*, edited by Linnie Marsh Wolfe, Boston, 1938, pp. 184-186.

Sierra Club Bulletin. In his letter to the newspaper, Muir expresses the fear that "the destructible beauty of this remote Yosemite is doomed to perish like that of its neighbors." In this fear he was not so much concerned with the trampling of human feet as with the ravages of sheep and cattle. A few years after his visit the first bands of sheep did, indeed, enter upon these Elysian fields, but happily not with all the consequences Muir apprehended. Pasturage has never been abundant on the floor of Kings Canyon, and sheepherders usually led their flocks through to higher and greener meadows, where the ravaging went on unobserved for a long time. Among the earliest to bring sheep into the Kings Canyon region were Robert M. Woods and Frank and Jeff Lewis. In the light of their time their operations were well conducted and economically wholesome. Personally, they were men of fine character whose names are appropriately preserved in connection with the streams by which they and their flocks lived all summer long and prospered.

There is a good deal of evidence that during the decade of the 'seventies Kings Canyon was the resort of the adventurous, seeking for new wonders or for the more abundant life as exemplified by speckled trout and bounding deer. Fishing parties from Owens Valley crossed Kearsarge Pass and descended by Charlotte Creek to the canyon. In October, 1875, J. M. Hutchings, of Yosemite fame, with photographer W. E. James and botanist Albert Kellogg, followed this route. They photographed Mount Brewer and the features of Kings Canyon, including the Sphinx, which Hutchings called "The Watch Tower."¹⁸ There are vague references to a visit by the celebrated painter Albert Bierstadt, but I cannot find any evidence that he ever entered the canyon. John Muir explored the lower canyons of the south and middle forks in 1877. A winter crossing of the range is reported by the Owens Valley paper under the heading, "A Dangerous Undertaking":

Last Sunday two men, Chris Evans and Henry Persian, started to cross the Sierra Nevadas, via the Kearsarge trail to Visalia. They were afoot and had blankets and three or four days' provisions on their backs. As the trail is very rugged, over the loftiest mountains in the range, and the distance through over 100 miles, it is deemed very improbable that the men could have got through before Wednesday's fear-

¹⁸ *Inyo Independent*, October 23, 1875; and manuscript in Yosemite Museum.

ful storm caught them. But both were old mountain men, and one, if not both, well acquainted with the route, so it is possible they are all right.¹⁹

They survived. Chris Evans became the bandit partner of Sontag.

There were other pioneers in Kings Canyon in the 'seventies, some beguiled into dreams of wealth by the green copper stains, others justifying by excuses of one sort or another their obvious enjoyment of this wilderness sanctuary. Two parties are reported to have spent successive winters in the canyon: Clark, Hicks, Hilton, and Grover, 1877-78; Wills and Humphrey, 1878-79. A man named Shipe is said to have been the first to make formal claim to the little copper mine. Shipe was murdered in Visalia, his claim lapsed, and the location was forgotten.

P. A. Kanawyer began his long association with Kings Canyon in 1884. During the first few years he was accompanied by George Goforth; later he brought his family each summer and established the camp on Copper Creek which grew into a small resort for campers. Kanawyer's pack train became widely known throughout the central Sierra.

A few pioneers in Kings Canyon secured patents on small areas of land. P. A. Kanawyer relocated the copper mine in 1887, but there appears to be no record of a patent until 1915, when a mineral patent was issued to Viola Kanawyer for the Buckhorn Lode, twenty acres. In 1917 a patent was issued to her for the Dome and Unice lodes, a little over forty-one acres. After changing hands once or twice, these patents were purchased by the Forest Service in 1938 and are now publicly owned land in the national park. Another mineral claim of about twenty acres, on Copper Creek high above the canyon floor, was patented in 1914 and is still privately owned. Abram Agnew, Jesse Agnew his son, and Daniel K. Zumwalt acquired lands in the canyon between 1889 and 1891. In 1924 Jesse Agnew gave eighty acres of this land, including part of Zumwalt Meadow, to the Sierra Club, which now owns it. The remaining tract of forty acres was purchased by the Forest Service in 1938. The only land within the boundaries of Kings Canyon National Park now in private hands beside the Sierra Club tract and the claim on Copper Creek are Summit Meadow and six other tracts, mostly high meadow country, south

¹⁹ *Ibid.*, December 6, 1873.

of Kings Canyon, six small tracts north of Tehipite, and sixteen acres high up on Goddard Creek. Simpson Meadow is claimed, but ownership is disputed.

The early history of the Middle Fork of Kings River is more obscure than that of the South Fork. There were fewer visitors and practically no accounts were published contemporaneously. Frank Dusy, of Fresno, who maintained summer headquarters at Dinkey, was the outstanding figure, and we are indebted to L. A. Winchell, son of the Winchell who visited Kings Canyon in 1868, for most of our knowledge of his explorations.²⁰ Dusy is credited with the discovery of Tehipite Valley in 1869, although evidences of an earlier visit are mentioned—perhaps traces of Keough's prospecting trip of 1864. Dusy returned to Tehipite frequently during the next ten years, but it was not until 1879 that he succeeded in breaking a trail for animals to the bottom of the canyon. On at least one occasion Dusy explored the Middle Fork as far as the Palisades and is said to have discovered the glaciers on the far side of the main crest. Gustav A. Eisen says he visited this region with Dusy in 1877 and that Dusy had been there the year before.²¹ Winchell also says that Dusy visited the Palisades and gives the date 1877. Dusy was a photographer and brought a heavy camera and equipment into the mountains. Winchell witnessed the photographing of Tehipite Dome in 1879; Eisen also mentions the taking of photographs. John Muir reached Tehipite Valley in the course of his explorations in 1875 and again in 1877.²²

Simpson Meadow and Cartridge Creek were known to campers, hunters, and sheepmen at an early date. They were reached by rough trails over the Monarch Divide or from Crown Creek along the north rim of the canyon. The name "Tunemah Trail" bears witness to the fact that a representative of the Chinese nation had something to say about travel conditions on the latter route. Winchell says the original cursing was done in 1878. Sheep were brought into the Middle Fork in 1877 from Owens Valley, pre-

²⁰ Memoranda from L. A. Winchell.

²¹ Memoranda from G. A. Eisen.

²² Muir makes this clear in "A Rival of the Yosemite," in *The Century Magazine*, November, 1891, p. 95. For other early accounts of Tehipite see "Unexplored Regions of the High Sierra," VI, "Tehipite Valley," by Theodore S. Solomons, in *Overland Monthly*, August, 1897, and "To Tehipite Through Silver Canyon," by Elesa M. Gremke, in *Sunset*, March, 1901. See, also, other references in Farquhar: *Place Names of the High Sierra*, under "Tehipite Dome, Valley," p. 92.

sumably over Bishop Pass, by Pete Rambaud, a Basque. His fame, as well as that of "Little Pete" Giraud, is preserved in the nomenclature of the region. Young Winchell carried on further explorations in the upper Middle Fork basin in 1879. He visited the Palisades, reported the glaciers, gave the names, Agassiz and Winchell (for Alexander Winchell, a distant relative) to the peaks near Bishop Pass, and climaxed the season's work by making the first ascent of Mount Goddard.

The small portion of Kings Canyon National Park that lies north of Muir Pass, in the basin of the South Fork of the San Joaquin, has a brief history all its own. For a long time extremely inaccessible, its features were first made known by Theodore S. Solomons in 1896. He explored and named the Evolution group of peaks and made a map which showed many previously unknown details of that region as well as of the country around Mount Goddard.²³

Beginning with the year 1890 exploration of the Kings Canyon region became more detailed and the accounts more circumstantial. In that year J. N. Le Conte began the series of excursions into the less-known parts of the High Sierra which were so productive of reliable information. He was followed by Bolton Coit Brown and Theodore S. Solomons. With boundless enthusiasm they forced their way over new passes, climbed peaks, sketched, photographed, and charted the country. The results filled the early numbers of the *Sierra Club Bulletin* and were embodied in the maps published by the Club in 1893 and 1896. Solomons seems to have been the first to conceive of a High Sierra trail following the main crest as closely as possible all the way from Yosemite to the Kern, an enterprise finally consummated in the present John Muir Trail. He and Le Conte, together with J. S. Hutchinson and Duncan McDuffie, of the Sierra Club, and George R. Davis, of the U. S. Geological Survey, did most to open up the route, particularly across the passes.²⁴

Three notable camping trips in the Kings Canyon country are of special interest. First, was Muir's expedition with the artist

²³ "Unexplored Regions of the High Sierra," in *Overland Monthly*, May and June, 1896; and "Mount Goddard and its Vicinity—in the High Sierra of California," in *Appalachia*, January, 1896.

²⁴ See references in Farquhar: *Place Names of the High Sierra*, San Francisco, 1926, under "John Muir Trail," p. 48, "Mount Bolton Brown," p. 8, and "Solomons," p. 117.

Charles D. Robinson, in June, 1891, which resulted in an illustrated article in *The Century Magazine*, November, 1891, in which Muir proposed the addition of the Kings River region to the recently established Sequoia National Park.²⁵ Second, was David Starr Jordan's party, in 1899, from which came his "The Alps of the Kings-Kern Divide."²⁶ Third, was Joseph Le Conte's trip, in 1900 with his son J. N. Le Conte, described by the father and illustrated by the son in *Sunset*, October, 1900.²⁷

In the period covered by this historical review, which we are about to terminate with the year 1900, only a few of the peaks in Kings Canyon National Park were climbed. The ascents of Mount Brewer (1864) and Mount Goddard (1879) have already been mentioned. J. N. Le Conte and three companions climbed Mount Gould in 1890. Solomons climbed Mount Wallace in 1895; in the same year Bolton Coit Brown reached the summits of Mount Woodworth and Arrow Peak. In 1896 Brown made solo ascents of Mount Stanford and Mount Clarence King, and, with J. N. Le Conte, climbed Mount Gardiner. Le Conte, Miss Gompertz, and the two Misses Miller made the first ascent of University Peak, also in 1896. In 1898, members of a party comprising R. M. Price, Mrs. Price, J. C. Shinn, and C. B. Bradley made first ascents of Mount Keith, Mount Bradley, and Center Peak; and, in 1899, Copeland and Henderson climbed Junction Peak. Before 1899 Dr. Emmet Rixford had been on the summit of the peak that bears his name. There were doubtless others whose feats have not been recorded; and there is John Muir, who, leaving no records on the summits which he visited, must have anticipated more than one "first ascent."

About the turn of the century new elements began to enter into the history of the Kings River country. The Sierra Club began its long series of outings into this region in 1902. The United States Geological Survey mapped the area between 1903 and 1909, producing such remarkably accurate and useful quadrangles as *Tehi-*

²⁵ See, also, *John of the Mountains*, edited by Linnie Marsh Wolfe, Boston, 1938, pp. 322-333.

²⁶ First published in *The Land of Sunshine*, Los Angeles, March, 1900, reprinted, San Francisco, 1907, as a booklet entitled "The Alps of the King-Kern [sic] Divide." See, also, "The Kings River Canyon and the Alps of the Great Divide," by Jordan, in *Sunset*, April, 1900, and "A Stanford Party in the Kings River Canyon," by Vernon L. Kellogg, in *Sunset*, November, 1899.

²⁷ Reprinted in *S. C. B.*, June, 1902, 4:2, pp. 88-99.

pite, Mt. Whitney, and Mt. Goddard. Finally, there came the long campaign to make the Kings River Sierra and its canyons a national park. During this time thousands of campers have looked upon the mountains and cliffs, forests and meadows, lakes and streams, and have derived from their days in this High Sierra the same enjoyment, the same recreation of body and soul that their predecessors found and that the future may be expected to bring for generations to come.

Legislative History of Sequoia and Kings Canyon National Parks

By FRANCIS P. FARQUHAR

[The following chronology records the legislative action by which two great national parks were established, and indicates the development of the principles by which they are distinguished from other reservations of the public domain. All statements are based on documents, correspondence, contemporary memoranda, or published accounts, on file in the Sierra Club office or in the private collection of the author.]

1879

Protection of big trees of the Sierra advocated in Visalia.

1880

Theodore Wagner, U. S. Surveyor General for California, asked the Register of the Land Office at Visalia to suspend from entry or sale certain lands in T 14 S, R 28 E (General Grant Grove).

1881

December 31, Senator Miller, of California, introduced bill in the Senate of the United States, to set apart a certain tract of land "as a public park and forest reservation for the benefit and enjoyment of the people." Area proposed included nearly all of present parks together with portion of timber belt to west. No action taken.

1885

Commissioner Sparks of General Land Office suspended from entry 18 townships, most of which contained sequoias.

1889

Constant pressure to release these lands showed necessity of congressional action. George W. Stewart wrote in *Visalia Delta*: "The Federal government should take measures at once to preserve the forests and prevent the Sierra from becoming a range of bare, verdureless, stony peaks." Meetings held at Tulare, Visalia, and Fresno resulted in petitions to Washington.

1890

Efforts made by timber interests to have suspension of Garfield

Grove area revoked. Tulare County group headed by George W. Stewart, Frank J. Walker, John Tuohy, and Tipton Lindsey asked General William Vandever, Member of Congress from 6th District of California, to introduce bill in House of Representatives to reserve T 18 S, R 30 E (including Garfield Grove) as a public park. Vandever bill introduced July 28, 1890; almost immediately amended to include additional territory shown on map prepared by Walker, namely, T 18 S, R 31 E, and four sections in T 17 S, R 30 E. Vandever bill passed by House, August 23; by Senate, September 8; signed by President Harrison, September 25. Secretary of the Interior, John W. Noble, gave the name "Sequoia National Park."

Enactment of the Vandever bill was undoubtedly influenced by endorsement of the California Academy of Sciences, which followed an address by Dr. Gustav A. Eisen on August 5. Although too late for use in connection with this bill, the memorial and map prepared by W. S. Chapman, J. R. Scupham, and Dr. Eisen was of great value in the next step.

Parallel with the movement to preserve the sequoia groves in Tulare County was one sponsored by John Muir and Robert Underwood Johnson (editor of *The Century Magazine*) to establish a national park in the Yosemite region. When the Yosemite bill, also introduced by Congressman Vandever, came up for consideration an amendment was added which had nothing to do with Yosemite, but which served to enlarge the southern park by including the remainder of T 17 S, R 30 E, and all of T 15 and 16 S, R 29 and 30 E. At the last moment, D. K. Zumwalt of Visalia, who was in Washington at the time, suggested addition of four sections in T 13 and 14 of R 28 E. The bill passed both houses of Congress and was signed by the President October 1. Soon afterwards Secretary Noble gave the name "General Grant National Park" to the four square miles in Range 28 East.

1891

Beginning of administration of park by U. S. Army officers. (Continued through 1914.) Captain J. H. Dorst, the first acting superintendent, said in his report, referring to proposal for extending park:

Knowing how much the welfare of a large population depends

on this matter, I am in sympathy with any plan that will preserve the mountainous country in its natural state.

John Muir, in *The Century Magazine*, November, 1891, described Kings River Canyon and proposed its inclusion in a national park:

Let our law givers then make haste before it is too late to set apart this surpassingly glorious region for the recreation and well-being of humanity, and all the world will rise up and call them blessed.

1893

Captain James Parker, acting superintendent, recommended extension of the park:

It would include and preserve the sources of the Kern River, a stream which is much depended on for irrigation. It would reclaim from sheepmen an area now almost impassable to the traveler, to such an extent is every living thing eaten off the face of the earth and trampled under foot by the hundreds of thousands of sheep which every year roam over that territory. . . . This extension of the park would include what is perhaps the finest fishing ground in America, or of the world, the Kern lakes and the upper waters of the Kern River. It would include some very picturesque country, notably about Mount Whitney, and much country in which, by reason of its comparatively low altitude, deer can winter.

Sierra Forest Reserve established by proclamation of President Harrison. This withdrew from entry a large part of the Sierra Nevada, but for more than ten years this territory remained in an indefinite status.

1898

John Muir called attention to the incompleted work:

This Sierra Reserve, proclaimed by the President of the United States in September, 1893, is worth the most thoughtful care of the Government for its own sake, without considering its value as the fountain of the rivers on which the fertility of the great San Joaquin Valley depends. Yet it gets no care at all. In the fog of tariff, silver, and annexation politics it is left wholly unguarded, though the management of the adjacent national parks by a few soldiers shows how well and how easily it can be preserved. In the meantime, lumbermen are allowed to spoil it at their will, and sheep in uncountable ravenous hordes to trample it and devour every green leaf within reach; while the shepherds, like destroying

angels, set innumerable fires, which burn not only the undergrowth of seedlings on which the permanence of the forest depends, but countless thousands of the venerable giants. If every citizen could take one walk through this reserve, there would be no more trouble about its care; for only in darkness does vandalism flourish.*

1900

Captain Frank West, acting superintendent, said in his report:

The present limits of the Sequoia National Park are altogether too small, and should be extended to the eastward as far as Mount Whitney, so as to take in the magnificent Kern River Canyon, and north to take in Kings River Canyon.

1901

Captain L. C. Andrews, acting superintendent, reiterated:

If, on the other hand, it is desired to confine the wonders of nature in this section into a national park to be in the same class with the Yellowstone and Yosemite, this, too, can be done. The canyons and mountains are here as grand, perhaps, as any in the world. Within reasonable distance of the Giant Forest as a central feature, and separated only by rugged, picturesque country, of no industrial value but as a reservoir for valley irrigation, are the Kings River and Kern River canyons, reported to be the deepest in the United States, and Mount Whitney, the highest mountain.

1906

Sierra Club report on Kings Canyon area prepared by William E. Colby, J. N. Le Conte, E. T. Parson, published in *Sierra Club Bulletin*, 1907, 6:2, pp. 115, 125; reprints widely distributed. It described the region, commented on the increased effectiveness of the forest reserve administration, urged elimination of commercial elements, and proposed:

A park area which shall not extend much farther west than the lower end of the "Kings River Canyon" and of the Tehipite Valley, and which shall embrace the major portion of the drainage basin of both the Middle and South forks of the Kings River to the east of these points.

1908

Subdivision of Sierra National Forest (formerly Sierra Forest

* *Atlantic Monthly*, January, 1898; reprinted in *Our National Parks*, 1901, pp. 33-34.

Reserve). Sequoia National Forest established out of southern portion.

1911

Bill introduced in Senate by Senator Flint, of California, for enlargement of Sequoia National Park on lines drafted by J. N. LeConte and William E. Colby, of Sierra Club, with final preparation by R. B. Marshall, of U. S. Geological Survey. The territory embraced the basin of the Kern as far south as Coyote Peaks and Kern Peak, the entire basins of the South and Middle forks of the Kings, basins of Evolution Creek and the South Fork of the San Joaquin as far west as the junction of Piute Creek, and the territory south and east of Piute Creek, with its northerly limit at Pine Creek Pass. On the west the line ran northerly from the northwest corner of the existing park, via Buck Rock and Sequoia Ridge, to the junction of the South and Middle forks. These boundaries are mentioned as they represent very nearly the maximum advocated by the Sierra Club. That these aspirations have been substantially achieved will be apparent by comparing the lines of the Flint bill with those of the two parks as now constituted. No action was taken on the Flint bill, but it served as a model for succeeding bills.

1912

Henry S. Graves, head of U. S. Forest Service, said:

It is my decided judgment that the question of the enlargement of the Sequoia National Park should be deferred until the establishment of a Bureau of National Parks and the development of a definite policy in regard to the areas which should be included in the parks and the principles governing the establishment of the boundary lines. . . . The parks should certainly comprise such areas of timber land as are essential for park purposes, but should not, in my judgment, include great bodies of commercial timber which should be cut and utilized as they come to maturity. It would be very unfortunate to include such areas in parks, because ultimately the conditions would require their utilization, and it would then be necessary either to exclude them from the parks or to give authority to cut them in the parks. This last action would be very unfortunate, as it would inevitably lead to a more or less commercializing of the resources of the parks, to which I am greatly opposed. The parks should be administered purely

from the standpoint of their usefulness as recreation grounds and not for commercial use of their resources.¹

1913-14

First steps toward organization of national parks under unified management. Adolph C. Miller, Assistant to the Secretary of the Interior; Mark Daniels, General Superintendent and Landscape Engineer.

1915

Unification of national park system continued by Stephen T. Mather, Assistant to the Secretary of the Interior, who, long familiar with the region, stimulated interest in the enlargement of Sequoia National Park.

1916

Act of August 25, 1916, creating the National Park Service, states its purpose:

To conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.²

Bills introduced in House and Senate by Congressman William Kent and Senator James D. Phelan, respectively, for enlargement of the park. Allowed to lapse because not satisfactorily drawn.

1917

An improved bill, along lines of Flint bill of 1911, introduced at close of 64th Congress by Congressman Kent, was too late for action. Shortly after the 65th Congress convened, Senator Phelan introduced a similar bill, S. 2021.

Stephen T. Mather became the first Director of the National Park Service; Horace M. Albright, Assistant Director. Renewed efforts for enlargement of the park.

1918

Congressman Arthur Elston introduced H. R. 10929, identical with S. 2021.

¹ S. C. B., 1912, 8:4, p. 281.

² 39 Stat. 535. See also, S. C. B., 1916, 10:1, pp. 113-114; and 1917, 10:2, pp. 241-242.

Franklin K. Lane, Secretary of the Interior, promulgated "Statement of National Park Policy," which included the following:

First, that the national parks must be maintained in absolutely unimpaired form for the use of future generations as well as those of our own time; second, that they are set apart for the use, observation, health, and pleasure of the people; and third, that the national interest must dictate all decisions affecting public or private enterprise in the parks.

Every activity of the Service is subordinate to the duties imposed upon it to faithfully preserve the parks for posterity in essentially their natural state. The commercial use of these reservations, except as specially authorized by law, or such as may be incidental to the accommodation and entertainment of visitors, will not be permitted under any circumstances.

1919

Immediately following the death of Theodore Roosevelt, Senator Phelan proposed that the "Greater Sequoia" be called "Roosevelt National Park." The Phelan bill (S. 2021) was favorably reported out from the Senate Public Lands Committee, January 16, and passed the Senate the same day with the "Roosevelt" amendment. On February 12, the House Committee reported on S. 2021 with the startling recommendation that everything relating to enlargement be stricken out and only the change of name be enacted. Congressman Cramton, of Michigan, presented a vigorous minority report in favor of enlargement, but the opposition of Congressmen Raker and Church, of California, sufficed to prevent further action and S. 2021 died with the expiration of the 65th Congress, March 4.

The enlargement project at this stage became a highly controversial matter, with the Forest Service openly opposing transfer of certain areas which it claimed were important for timber use, and with various interests in Fresno and Tulare counties also in active opposition. The Park Service, backed by the Sierra Club, the American Civic Association, and other public organizations, as strongly advocated the park enlargement. Bills identical with those preceding were introduced in the 65th Congress, June 5; Senator Phelan's, S. 1391, in the Senate, and Congressman Elston's, H. R. 5006, in the House.

Secretary Lane, Interior, and Secretary Houston, Agriculture, instructed Director Mather and Chief Forester Graves to confer

on the question of boundaries and endeavor to reach an agreement. Mather and Graves met at Hume in July, but meanwhile Secretary Houston had himself visited the ground, guided by District Forester Coert Dubois, and had made a statement that the Boulder Creek—Sugarloaf country should not be taken out of the National Forest. Graves was thus stopped from discussing one of the principal points at issue and no agreement was reached.

1920

The Phelan bill, S. 1391, reported favorably by Public Lands Committee, February 25, and passed the Senate without amendment.

Public hearings were held on the Elston bill, H. R. 5006, at which the Sierra Club was represented by Mrs. Marion R. Parsons. The Forest Service conceded the main features of the Kings and Kern canyons, but stood firm on the territory between Sequoia National Park and Kings Canyon, asserting merchantable timber. Jesse Agnew, representing Visalia Board of Trade, supported the bill with statements that took most of the starch out of the "merchantable timber" and "valuable grazing land" arguments. Nevertheless, the Committee reporting the bill, March 25, cut down the boundaries to meet Forest Service objections.

A new source of trouble now appeared. The Federal Water Power Act, approved June 10, 1920, opened national parks as well as national forests to power projects, although there was an understanding between the President and Congress that the act would be amended in the next session to exclude national parks from its provisions. The city of Los Angeles immediately covered the Kings River with claims and expressed opposition to any legislation that would prohibit water-power development. On the other hand, park advocates could not accept a region for park status which was subject to such development.

1921

Water Power Act amended, March 3; existing national parks not subject to water and power applications. The Phelan and Elston bills expired without action.

Congressman Henry E. Barbour introduced H. R. 7452, June 29, designed to include only such areas as were not in controversy. However, it precipitated two new controversies: no mention was

made of excluding water and power applications, and the three southern townships (the original nucleus) of Sequoia National Park were to be cut out. The name of the park was to be "Roosevelt-Sequoia National Park."

Support of the Forest Service for this emasculated proposal was assured. It was a hard bargain, but with the power issue looming as a menace to the entire park enlargement plan, the Park Service, supported by the Sierra Club, acquiesced, provided the bill could be amended to secure the territory against water and power development. Boundaries were to be a secondary consideration. Francis Farquhar was asked by the directors of the Sierra Club to work for the bill and spent several months in the East soliciting the support of influential men and women and of conservation organizations. When hearings were held in December we were able to make a strong presentation. Chief Forester William B. Greeley made one of the best statements in favor of the bill. He said, in part:

I believe that the boundaries of the proposed addition, as they have been adjusted after a great deal of study separate an area in which we can properly say that the recreational and scenic values outweigh the value of commercial resources. . . .

If the area is to be a national park, its recreational and scenic values should be fully and absolutely protected, so that they can not be broken into by commercial development unless Congress should so decide.

For that reason, Mr. Chairman, I am strongly of the opinion either that the bill now before you should be amended so as to exclude power development except by act of Congress or that our general legislation dealing with water power should be modified to apply to future parks or park additions, as well as to national parks existing at the date of the present law.

The American Civic Association, the Appalachian Mountain Club, the Roosevelt Memorial Association, and other organizations supported the bill, with the proviso of an amendment protecting the park from power development. The Los Angeles Bureau of Power and Light stood firm in opposition.

1922

The Barbour bill was reported to the House January 20 with the recommendation that, amended to prohibit water and power de-

velopment, it do pass. It seemed as if the long awaited enlargement was about to take place. But soon these hopes began to fade. Unanimous consent for consideration of the bill was denied by Congressman Osborne, of Los Angeles, and his friends. As time went on the chances for getting a vote on the bill grew less. Sierra Club members in Los Angeles did all they could to overcome the opposition. The following telegram was sent, April 12, to Representative Osborne by the Southern California Executive Committee:

The eleven hundred members of Southern California section of Sierra Club heartily endorse the Barbour bill as it now reads. . . . Having worked to that end for twelve years we believe the recreational value to the nation of the proposed protected area coupled with its value as a financial magnet to the state is beyond estimation. . . . As your constituents, we urge and expect your coöperation with other California representatives in Congress, looking to the early creation without spoliation, of the greatest of American National Parks—California's own gift to the nation.

John D. Fredericks, President of the Los Angeles Chamber of Commerce, telegraphed Congressman Osborne:

The Chamber of Commerce excursion has been in the San Joaquin Valley all week endeavoring to establish better relations between the valley and Los Angeles. I am much impressed with the earnestness with which the people in the valley desire our coöperation in the matter of securing unanimous consent to the consideration of the Roosevelt-Sequoia Park matter. . . . I most earnestly urge you to consent to the immediate consideration of the bill. The attitude of the Los Angeles Power interests in opposition can never prevail. It would be to our great advantage to assist the valley here in securing what they want.

A hearing was held at Fresno, May 25, before a representative of the Federal Power Commission, at which the Sierra Club presented a statement in opposition to the applications in Kings River.³ Opposition was also expressed by irrigation interests. Applications placed on "the indefinitely suspended file" and ultimately rejected (June, 1923).

During the year Dr. Willard G. Van Name, of New York, conducted a lively campaign against the bill on the ground that the

³ S. C. B., 1923, 11:4, pp. 441-446.

transfer of the three southern townships from national park to national forest status was "A Grab for Half the Sequoia Park" and that the area proposed to be added to the park was "high, barren, rocky, inaccessible land."

1923

Osborne continued obdurate. The 67th Congress expired March 4.

The 68th Congress convened in December and a new Barbour bill, H. R. 4095, was introduced. A compromise was made on the southern boundary and provision was made for a game refuge.

Once again, with the way apparently cleared, a new obstruction reared its head. Irrigation interests in Fresno County fell heir to the claims of Los Angeles.

1924

Hearings on H. R. 4095 were held in February. William E. Colby appeared for the Sierra Club. Other organizations were well represented. Excerpts from Colby's testimony:

Referring to proposed southern boundary.—We felt if it were necessary to get the bill through we would be willing to sacrifice those three townships [for] this great area here, which is worth one hundredfold easily, if you can compare those things mathematically. We did not want those three townships eliminated, and we are delighted now that the area has been practically included. . . .

Colby vs. Van Name.—I asked Mr. Van Name, "Why don't you want to preserve this [the High Sierra region]?" He said, "It is so rough, so mountainous it will preserve itself. No one goes in there." I said, "Every year I take in 200 or 300 Sierra Club members." He said, "Yes; they are rich people, composed of rich lumbermen." . . . and that is typical of the statements Mr. Van Name has been making right along.

The Fresno irrigationists made a strong plea for elimination of the Kings Canyon area from the proposed park. Their hopes and fears, plus a year of drought and an election coming up, made progress on the park bill almost impossible. Suggested compromises: A clause in the bill permitting water storage for irrigation should of necessity be demonstrated; omit Kings River area entirely, adding only the Kern River area—"a Tulare County park."

Sierra Club raised fund for Sequoia enlargement propaganda.

1925

Still stymied by the irrigationists, now backed by California Development Association (State Chamber of Commerce).

1926

February 6, Director Mather wrote to Mr. Colby:

Following this meeting [of the President's Committee], there was a conference in Secretary Work's office with Secretary Jardine, Colonel Greeley and myself, at which it was agreed that the thing to do was to try for the addition of the Kern Canyon and Mount Whitney section, taking the Fresno-Tulare County line as the north boundary. This eliminates the Kings River section. . . .

In the meantime Secretary Work, in an effort to clear the situation, advised Ralph Merritt of the agreement, and he has now come back at the Secretary with the proposal that an agreement can be secured with the various irrigation and power interests involved if the northern boundary of the park follows the southern line of the Kings River watershed, rather than the Fresno-Tulare County line. . . .

The question as I see it at the present time is whether the Sierra Club would accept this compromise and try for the Kern Canyon and Mount Whitney section at this time, leaving to the future the question of getting the Kings section.

Sierra Club Board of Directors acquiesced, but without abandoning efforts to have Kings River area included later on.

A new Barbour bill, H. R. 9387, introduced in the House February 16, with boundaries as agreed upon.

Miss Susan P. Thew prepared and had printed at her own expense a portfolio of views illustrating "The Proposed Roosevelt-Sequoia National Park." Copies were sent to all members of Congress and were very effective in stimulating interest in the Barbour bill.

Barbour bill passed the House May 27; passed the Senate July 1, with amendment eliminating name "Roosevelt"; House accepted amendment July 2. Following telegram received by Colonel John R. White, Superintendent, Sequoia National Park, July 4:

Bill enlarging Sequoia National Park signed by President late yesterday. The Greater Sequoia National Park now a reality. Greatly appreciate wires yourself and Farquhar. Leaving here today for God's country.

H. E. BARBOUR

1927-1934

For several years intermittent discussions were held between advocates of national park status for the Kings River region and those who opposed it or would make it conditional on provisions for water storage. A study of storage possibilities was made by Ralph R. Randell for the Federal Power Commission in 1929. His report showed extreme possibilities of such development.⁴ On the other hand, surveys were made for recreational potentialities, especially in connection with state highway into Kings Canyon. Construction of highway began during this period. Sierra Club maintained its interest, but made no active campaign for park; concerned itself primarily with emphasizing recreational values, opposing over-development, and cooperating with Forest Service in preservation of wilderness character. Efforts to draft a bill satisfactory both to park advocates and to others continued to be unsuccessful.

1935

March 18, Senator Hiram Johnson introduced S. 2289 to establish Kings Canyon National Park. A storm of protest arose from the San Joaquin Valley. Two days later the Senator explained that he had introduced the bill at the request of Secretary of the Interior Ickes, that he would await advice from those interested before doing anything further. Congressman Gearhart, who had introduced a similar bill in the House, withdrew his bill. The principal difficulty, aside from the usual standing opposition, was that Californians had not been consulted as to boundaries or other provisions; the Sierra Club had no knowledge that such a move was contemplated and was unprepared to give it support. Nevertheless, when copies of the bill were received at the Sierra Club office a week or so later, examination showed that while the boundaries might have been better drawn, the bill merited the Club's endorsement. The Board of Directors, May 4, decided to renew the campaign for a Kings Canyon National Park.

During the summer conferences were held by Sierra Club representatives with national park officials which resulted in a revision of tactics respecting the Kings Canyon bill and cleared up Park

⁴ Report to the Federal Power Commission on the Storage Resources of the South and Middle Forks of Kings River, California, June 5, 1930, by Ralph E. Randell, Washington, 1931.

Service policies applicable to the region should it become a park. A statement issued by Secretary of the Interior Harold L. Ickes, September 20, contains the following:

This park will be treated as a primitive wilderness. Foot and horse trails to provide reasonable access will be encouraged, but roads must be held to the absolute minimum. The state road now being constructed should never be extended beyond the floor of Kings River Canyon.

1936

Ansel Adams represented Sierra Club at national parks conference in Washington in January and effectively publicized Kings River scenery by showing photographs and by talks.

Park bill remained in suspended condition, partly because of strong local opposition, partly because of growing apprehension among some of its supporters concerning certain rather ambitious expansionist tendencies in the National Park Service. The Forest Service, meanwhile, faced with problems of management as soon as Kings Canyon road should be opened, invited Sierra Club counsel in developing its plans. Directors Bernays, Hildebrand, and Starr accompanied Forest Service party in July and discussed plans on the ground. Resolution in their report, adopted by Club directors December 12, reiterated opinion as to national park quality of region, but, pending decision of Congress, endorsed general features of Forest Service plan particularly as to primary claims of recreation and as to extension of primitive areas.

1937

President Hildebrand and Director Starr, of the Sierra Club, accompanied Robert Marshall, of the Forest Service, and others on trip to Kings Canyon region and advised on further consideration of plans for recreational development.

1938

Another enlargement bill, H. R. 10436, was introduced April 27. The proposed boundaries indicated an effort to meet some of the local objections by leaving out Tehipite Valley and a large part of Kings Canyon. The Evolution region north of the Goddard Divide was restored to the project for the first time since 1920. At a hear-

ing held by the Fresno County Chamber of Commerce, May 12, some of the irrigationists, formerly hostile, appeared as advocates of the bill and it became apparent that some understanding had been reached between them and government representatives in Washington, the terms of which were not clear. Pending further information the Sierra Club's board of directors declined to endorse this bill.

Secretary Ickes directed further study of the Kings Canyon project to be made during the summer. President Hildebrand accompanied Regional Director Frank Kittredge and Special Consultant Irving Brant, of the Park Service, on a trip to Kings Canyon. Secretary Ickes visited California in October; met with Sierra Club directors and discussed basis for a bill that would meet local objections and at the same time enable conservation organizations to give their support.

In December, Secretary Ickes issued a statement reaffirming the principles stated in 1935, adding specific application to the treatment of Kings Canyon should the park be created, and concluding:

By these policies, written into law, the Kings River wilderness can be maintained forever in its present grandeur, and dedicated to recreational use consistent with its wilderness aspect.

1939

January. New bill drafted along carefully considered lines designed to establish a wilderness park. Cedar Grove and Tehipite reservoir sites left out; Redwood Mountain area added; Sugarloaf-Roaring River country and Evolution basin included; General Grant National Park to become part of new park. Proposed name: "John Muir National Park," changed to "John Muir-Kings Canyon National Park." Opponents carried on vigorous campaign in California State Legislature and secured resolution opposing transfer of area from Forest Service. All parties prepared for final struggle.

February. Congressman B. W. Gearhart, of Fresno, introduced bill, H. R. 3794, to establish John Muir-Kings Canyon National Park. Secretary Ickes visited California and opened intensive campaign for the bill; addressed meetings at Fresno and San Francisco. Secretary of Agriculture Henry A. Wallace announced approval of creating a national park in the territory under discussion.

March and April. Hearings before Committee on the Public Lands, House of Representatives. Effective favorable testimony by F. A. Silcox, Chief of the Forest Service, and Arthur E. Demaray, Associate Director, National Park Service.

The American Planning and Civic Association, the John Muir Association, the Emergency Conservation Committee, and the Sierra Club issued and widely distributed illustrated pamphlets describing the region and explaining the bill and its purposes. Members of these organizations wrote letters, sent telegrams, addressed meetings, and in innumerable ways helped in the campaign of education. Many other organizations and individuals endorsed the bill and worked for its passage.

July. The bill was reported to the House, July 2, favorably recommended, but with proposed amendment throwing entire area open to water and power development. Debated in House, July 18; objectionable amendment voted down; name amended to "Kings Canyon National Park"; passed, and sent to Senate.

August. Senate Committee reported bill favorably; unanimous consent for consideration denied, so not brought to vote before adjournment. Bill remained on calendar, however.

September. Federation of Western Outdoor Clubs reaffirmed its endorsement of the Gearhart bill and recommended the continued support of member clubs.

1940

Unanimous consent for consideration of the bill again denied. Evidence of last-ditch fighting by opponents; counteracted by renewed efforts on the part of supporting organizations.

The Kings Canyon National Park bill passed the Senate February 19 and was approved by President Roosevelt March 4.

Congressman "Bud" Gearhart wrote to William E. Colby:

It was a grand old fight, the hottest legislative battle of the 76th Congress, all here agree. If it had not been for the earnest support which came to me from the Sierra Club, I am not at all certain that we would be able to celebrate a victory at all. For that assistance, my hearty thanks.

Addendum

The main objective of creating a great national park to preserve as nearly as possible in its natural state the whole High Sierra of

the Kings and the Kern, together with its forests, meadows, and canyons, has been substantially achieved. The question of Cedar Grove and Tehipite remains, but they are not immediately threatened and there are good grounds for believing that agitation for their conversion into reservoirs will subside. The time may come when there will be no opposition at all to their inclusion in the park. Meanwhile, they are to be administered by the National Park Service in harmony with the adjacent park territory. It remains for sound administration by the National Park Service to justify the faith of those who for so many years have worked for this achievement. The present personnel of the Park Service, carrying forward the tradition established by Mather, Albright, Cammerer, and their associates, inspires confidence in the future of Sequoia and Kings Canyon national parks.

Snowpatch—and Other Bugaboos

By FRITZ LIPPMANN

STORM reigned over the Purcell Range as sodden clouds settled over the panorama of sharp spires of the Bugaboos. A cold rain pelted our neoprene tents, a steady rain that had been pattering down for hours. This was hardly auspicious weather, concluded Jack Arnold, Raffi Bedayan, Edward Koskinen, and I, for a serious Sierra Club attack on what we considered America's number one climbing problem—Snowpatch Spire.

The weather had first greeted us at the little British Columbian town of Spillamacheen. After thirty-three hours of strenuous driving from San Francisco, we had arrived to find the ground so damp we preferred to establish base camp in the car. Rain had followed us through the nine hours of back-breaking labors along the twenty-seven-mile approach road, where we had cut fallen logs, cleared debris from the road, repaired bridges, and built detours to make way for Raffi's sedan. Then, as we packed in our week's supply of food and climbing equipment, contained in packs that were among the largest I have ever seen, we were accompanied by a drenching downpour, refreshing, perhaps, but only adding to our burden. Finally, after two days' packing, we had established a climbing camp at highest timber under a house-sized talus block sheltering a room that just did accommodate the four of us.

Still our question was: Would the weather clear sufficiently? We were assured that we would need good weather during our first glimpse of our objective, when the 1000-foot east face of Snowpatch loomed through the clouds. It presented a repelling picture—as far as hopes for climbing it were concerned—of overhangs, steep faces where there weren't overhangs, a distinct lack of any ridge to offer a conventional route to the summit, and a high-angle snowfield. But at least we could reconnoitre, and on August 3 we were ready to set off from high camp. The rain that cooled our upward climb over moraine, then glacier, turned to powder snow by the time we had roped and ascended to the col between Bugaboo and Snowpatch spires. We had wanted especially to look at the west face, but now from our vantage point it appeared no less objectionable than the east, lacking only a snowfield—the face was too

sheer to support one. There was a likely looking route involving several overhangs, but we rejected it. Such a route would have required establishing a climbing camp at the col, leaving time neither to complete the climb nor to await clear weather. Since the north and south "arêtes" were already considered out of the question, we returned to camp, determined to concentrate on the east face, where two years previously Fritz Wiessner's party stopped.

The day for our first real attempt dawned clear. Reaching the notch between Snowpatch and a needle to the east in two hours, we replaced tricounis with tennis shoes and set off roped in twos: Raffi and Ed, Jack and I. Raffi was soon hard at work in a 100-foot open chimney, driving the first two pitons. The parties next combined for the ensuing two pitches and three pitons, which brought us out of the trough we had climbed and onto the main face of Snowpatch. Here Jack led the overhang which Wiessner had mastered with six pitons, and arrived on a level with the Snowpatch which, however, was not yet visible. Raffi followed for a joint study of the final face, while lateness of the hour required that Ed and I remain under the overhang, out of sight of the face above. They returned with depressing tales of overhangs guarding the summit. This was the face that had looked impossible to other parties; not so to Jack and Raffi, as events were later to prove.

Perhaps because of the shock of his close study of the final face, Raffi chose the next day as one of rest; but Jack, Ed, and I, enjoying our usual rock-climbers' start, left for Bugaboo Spire at 11 A. M. As we trudged up the slopes of the col we halted to watch two early birds—members of a Seattle Mountaineers party camped near us. They were barely discernible, and could be seen only as they moved across the skyline toward the notorious Gendarme. Knowing that they should be down before we arrived at the more difficult climbing, we felt safe in being the second party on the climb. Indeed, we didn't reach the summit until 7 P. M. The climb was rather uneventful, but at the top a feeling of exposure was indelibly impressed by the fact that we counted off seventeen seconds while listening to the clankety-clank of a jam tin as it dropped off the sheer northwest face. The grand group of peaks around us was truly magnificent, especially the Howser Spires, highest and most impressive of the Bugaboos. Although they rose to an elevation of but 10,950 feet, not high to Californians, they

soared high above the broad intervening glacier. Far below the Spires three Seattle Mountaineers, having ascended the north and highest tower, were roping down the bergschrund. Thus reminded that the time until sunset was short, we, too, hurried down, arriving at the col with the last glow of twilight. Much stumbling, slipping, sliding and falling down snow and talus, and involuntary wading in cold glacier streams—this last quite a sport in darkness—brought us to camp at eleven. I was glad to arrive in one piece.

A visitor surprised us as we lazed about camp next morning—one of our "snaffle-hounds," a marmot who had previously occupied our apartment. As we lay on our bags he skidded to a stop at the back door to our bedroom, gave a loud whistle, and retreated in disorder. He had come on what was probably a daily raid of our stores, expecting to find us gone, as indeed we should have been, considering the hour. If he was disappointed, he was not completely at a loss, since either he or one of his relatives was soon observed raiding the Mountaineers' camp below us.

But the good weather was now holding too well to be devoted to wildlife observation. Raffi and Jack were enthusing about another attempt on Snowpatch. They were anxious either to climb it or to prove to themselves that they couldn't. Ed and I didn't share their enthusiasm. We wanted to climb something else while the weather held. A team of four had already proved too slow; besides, if what our reconnaissance had shown were true, we would all be back in camp next day with nothing to show for our efforts but a depleted stock of food. So by 11 A. M., while Raffi and Jack set off for Snowpatch prepared to bivouac, Ed and I, unburdened, hustled toward the Marmolata. This 9500-foot peak proved more difficult than we expected, for on the long arête which we followed to the summit, loose rock required eternal vigilance. I can remember several airy corners that I swung around relying upon scree over smooth granite—the antithesis of friction climbing. On our return we witnessed one of those sights that to me make mountaineering so worth while. Imagine, if you can, a dark, forbidding ice wall, framed on each side by bulking, shadowy peaks, a gently curving snow saddle between them, while beyond lies a veritable fairyland city of towers, parapets, and spires—all tinted by fading alpenglow that reaches upward to a sky filled with an endless array of colorful clouds. Drinking this scene to the fullest we lingered,

not daring to speak for fear of breaking a spell, until the pastel hues subsided, and darkness settled almost abruptly. We ran down the snow slopes toward camp, pausing to shout greetings to our friends as they prepared their bivouac at the notch. Their last words were that all looked well for the morrow. I know one of us was envious of them as we made for camp.

We had longed to visit the Howser group, and here was our chance. The next day we set off, and were soon exchanging yodels with the bivouackers. It was now eight o'clock, and they must hurry, for they had far to go. So had we. Five hours we trudged in ankle-deep snow, arriving at the first serious climbing just as a huge mass of ice broke away from a nearby serac and slid with a loud crash into a waiting crevasse. Starting up a seventy-degree slope leading to the bergschrund, we found the snow in sorry condition, and of such consistency that it wouldn't hold an ice-ax belay and threatened momentarily to avalanche. We thought it wise to return, retraced some of our steps to study the South Tower. Here we concluded that the long chimney leading to the south of the summit looked feasible, provided that the vertical ice of its entrance could be passed. But such a feat would require hardware, and this we had neglected to bring. Being anxious about our friends we were willing to hurry back to the glacier below Snowpatch, hoping to catch a glimpse of them. We arrived at 4 P. M.

A few loud yodels—and to our surprise we heard an immediate answer. We yodeled again, awaiting a reply, that we might fix its source. The reply sounded quite high. Our eyes roved the shadowed east face. How could we pick them out on that vast wall? How tiny and insignificant they must be! Higher and higher our eyes strained—up to where the very summit was sharply outlined against the afternoon sky.

And there they were, on top! While the tiny figures did the same, we waved and shouted ourselves hoarse, then hurried down to the Mountaineers' camp with the good news. The rest of the afternoon we spent with eyes glued to binoculars, watching the descending dots, all but lost on the wall, till they disappeared on the far side of the notch. It was not long before they returned to camp, comparatively fresh, filled with the thrills and statistics of the climb: Twenty-three pitons had been used; Fritz Wiessner's pitch alone had required direct aid; there had been "super" ex-

posure—and the Vein Pitch. This had been the crux of the ascent, where Raffi led up a high-angle, small-nobbed, tilting vein, rendered doubly difficult by the need to climb back down for more pitons. Above this was a ticklish mantelshelf traverse to a tiny, cramped belay point; another less difficult pitch and some scrambling to the notch between two summits. The highest was then easily accessible. Their climb ended with the thrill of two highly exposed and long rope-downs, ending just above the Snowpatch, from which they were obliged to climb down the rest of the way. And they had removed all the pitons but two. Truly a magnificent climb had been accomplished.

Intending to tussle with the South Tower while the victors took a day of rest, Ed and I rose at three o'clock next morning. Perhaps because we felt that anything we did would be an anti-climax, we didn't get very far, although carrying a full stock of hardware. We feel, however, the tower may be climbed by several routes.

Turning once again from the South Tower, we decided to try Pigeon Spire, which, although presenting no knotty problems, provided us with enjoyable climbing on fine granite, comparable to the best in Yosemite. We returned slowly to camp, closing our final day in the Bugaboos. Thus ended the expedition. We had enjoyed five full days of perfect weather and climbing, and the reputation of Snowpatch Spire as an unclimbable peak had accordingly suffered. To allay our "regret" of this fact, however, was the realization that we were leaving behind still another unclimbed peak in the same class—the South Tower of Howser Spire.





The Ascent of Mount Avon

Lines by WILLIAM SHAKESPEARE

Disarranged by BLANCHE STALLINGS

DRAMATIS PERSONÆ

TALBOT, *Leader of the climbing party*

ARTHUR, *an intrepid Rock-Climber*

HENRY, *a brilliant Rock-Climber*

JOHN, *a timid Rock-Climber*

A SERVANT TO TALBOT

SCENE: *Mount Avon, a remote peak in the Composite Range; once at the home of TALBOT.*

ACT I

The home of Talbot.

[Enter TALBOT, ARTHUR, HENRY, and SERVANT

Talbot. Buy thou a rope and bring it home to me.

Henry. Give me my boots, I say.

[Exit Servant.

Arthur. I'll go fetch an axe.

[Exeunt.

ACT II

A meadow near camp, Mount Avon in view.

[Enter TALBOT, ARTHUR, HENRY, and JOHN,
habited as Rock-Climbers.

Talbot. Now for our mountain sport; up to yon hill!

John. One cannot climb it without apparent
hazard of his life.

Henry. . . . haste away, for we must measure
twenty miles today.

Arthur. To climb steep hills requires slow
pace at first.

[Exeunt.

ACT III

A talus slope, a frozen lake nearby.

[Enter the climbing party.

John. When shall I come to the top of that
same hill?

Arthur. You do climb up it now. Look how
we labour.

John. By your patience, I needs must rest me.

Talbot. Come. . . . friends, rest on this rock.

[Exeunt.

ACT IV

The chimney.

[Enter the climbing party.

Talbot. I'll creep up into the chimney.

All. Ascend, brave Talbot, we will follow thee.

[TALBOT ascends.

Arthur. . . . his ascent is not by such easy degrees.

[ARTHUR and HENRY ascend.

John. I am afraid, and yet I'll venture it.

[JOHN ascends.

Henry. Stones have been known to move . . .

[Sound of falling rock.

Talbot. Lo, where comes that rock that I advise
your shunning.

John. How fearful and dizzy 'tis to cast one's eyes
so low!

. . . I'll look no more,
Lest my brain turn, and the deficient sight
Topple down headlong.

[*Exeunt.*]

ACT V

The summit.

[*Alaruns. Enter the climbing party.*]

Talbot. This is the very top. The height, the crest . . .

Arthur. Sit down and rest.

John. Could you on this fair mountain . . . feed?

Henry. Come, let's fall to; . . . Here is no drink!

[*They eat and rest. Sound of thunder and
lightning is heard.*]

Arthur. The scene begins to cloud.

[*Climbers arise in haste, pack knapsacks.*]

Henry. Shall I descend?

Talbot. Descend, and keep your words.

[*Thunder and lightning. Exeunt.*]

EPILOGUE

Yea, man and birds are fain of climbing high.

Much Ado About Botany

By JOHN THOMAS HOWELL

BY noon we entered that strange volcanic area extending eastward from the Napa Valley Palisades and drained by the headwaters of St. Helena Creek, a wild rugged area of rocky ridges, lava escarpments, and gravelly flats, locally known as the Crater Country. It was not the interesting geology that took us there but rather a botanical oddity, a strange dwarf monkey-flower whose corolla is so reduced and tiny as to be almost microscopic. This queer little plant had been discovered two weeks earlier by Maxine Wilkes and Paul Chenoweth when they were on a Bay Chapter Nature Study Group excursion; and now, on May 19, 1940, I was being taken to see the botanical anomaly, since only once before had a similar plant ever been found, the faceless monkey-flower of San Benito County (*Mimulus cleistogamus*). Not only did we find the plant we had come to see but also a number of other attractive or rare plants, several of which mark the Napa-Lake County area as one of the unusual botanical districts of California.

The little *Mimulus* was found on a hillside where it grew in the shelter of rocks and was nearly concealed by grasses. Growing near it in similar situations were the showy deep-red Kellogg monkey-flower (*Mimulus Kelloggii*) and the yellow-flowered fiddle-neck monkey-flower (*Mimulus nasutus*). The pale lavender-blue of the hill phacelia (*P. divaricata*) was seen here and there on the rocky slope, and the striking purple-black flowers of the jewel flower (*Streptanthus glandulosus*) added a strange color note to the scene. Although the mid-day sun was bright and hot, the white corollas of evening snow (*Linanthus dichotomus*) were wide open, a notably strange occurrence because in most places they remain closed until almost sunset. Two members of the sunflower family, *Madia nutans* and *Layia elegans*, with small and larger, yellow, daisy-like flowers, complete the roster of the more showy plants growing with the inconspicuous but very remarkable faceless monkey-flower.

Down on the gravelly flats and volcanic pavements below the faceless monkey-flower and its hillside associates, an equally inter-

esting coterie of plants grew. Here on the sandy beds of evanescent water courses, the pygmy monkey-flower (*Mimulus angustatus*) produced patches of crimson, and the darker red of the Layne monkey-flower (*Mimulus Layneae*) gave color to open spaces of pale volcanic rock. Certainly it seemed as if the Crater Country was *El Dorado* for monkey-flowers! Growing with them were several small relatively inconspicuous herbs that are to be counted among the more unusual plants of California: a slim-stemmed, spidery grass (*Scribneria Bolanderi*); a dwarf, pink-hued pussypaw (*Calyptridium quadripetalum*); and a densely leafy, cottony-sheathed knotweed (*Polygonum Parryi*). A queer little white-flowered herb bristling with green spine-like leaves was common in sandy places and was probably the very rare *Navarretia subuligera*. The small-flowered star-lily (*Zigadenus micranthus*) was in full bloom and the globular pods of Purdy's fritillary (*Fritillaria Purdyi*) indicated that earlier in the spring this very beautiful flower had been plentiful on the gravelly flats with the bitter-root (*Lewisia rediviva*).

To a casual observer, the Crater Country may appear a blighted region of sterile flats and rocks where even the hardy buck-brush and manzanita struggle to survive; but to those who see and understand, it is a place of beauty and interest.

The fuss about lewisias began at the first campfire of the 1940 annual Memorial Day outing to Yosemite, when Dick Leonard announced the El Capitan trip for the following day. The prospect of going to the top of El Capitan, the original home of *Lewisia yosemitana*, swept all else from my mind except a consuming desire to see and collect plants of the rare Yosemite bitterroot. The alluring little stroll along the trail turned out to be two or three times as long as forecast (in time, if not in miles), so we got no farther than the head of Ribbon Fall; but there we were rewarded by that superb view of the lower Yosemite with the Bridalveil floating and drifting downward from its hanging valley across the way. For the botanical objective of the outing, however, it was not necessary to climb the snow-flecked crown of El Capitan which rose above us to the eastward, for the Yosemite bitterroot was found west of Ribbon Creek in granitic gravel and sand on terraced glacial pavements from which snow had but recently melted.

The discovery of the little plants in full bloom was heralded with poorly suppressed chortlings of joy. The flowers, which were pale pink and about a half-inch across, bloomed at the surface of the ground and were surrounded by a spreading rosette of numerous flattened, strap-shaped, gray-green leaves. Nearby the queer steer's head (*Dicentra uniflora*), with its strange irregular buff and pink flowers, was in bloom, and a slope of purplish-blue phacelia (*Phacelia humilis*) added color to the scene. The *Phacelia* and *Dicentra* are not uncommon in the Sierra Nevada but the little bitterroot is found only on the granitic pavements above Yosemite walls.

The urge for bitterroots now dominated all else, and nothing would do but I must climb to the top of Mount Watkins to find the second of the rare Yosemite species, *Lewisia disepala*. So, early the day following, I was up and off. Clouds hung across the face of cliffs, and about the head of Half Dome mists formed and dissolved. The long climb up the zigzags of the Snow Creek Trail was refreshingly cool, and as I stopped to rest from time to time, I enjoyed the beauty of wild gardens along brooks fed from snowbanks on the canyon rim far above. Tiny, yellow monkey-flowers with fern-like leaves (*Mimulus laciniatus*) were common and the rare *Kumlien* grew on moss-covered rocks kept moist by the spray of splashing cascades. Overhead spread the sheltering branches of an unusual service berry with rose-veined petals (*Amelanchier* sp.); and nearby, on drier, rockier slopes, the Fremont silk-tassel (*Garrya Fremontii*) was draped with long graceful flower-clusters and the canyon live oak (*Quercus chrysolepis*) was golden with numerous shorter catkins.

Beyond the top of the zigzags I left the trail and began to climb the western slope of the Mount Watkins ridge. There in a forest of red fir near lingering banks of snow, I came unexpectedly upon a vigilant rattlesnake, which, like an ancient monster guarding fabulous treasures, seemed to keep watch over the granitic slopes beyond where the rare *Lewisia* grew. Where first I found the Watkins bitterroot, it was growing with the Yosemite bitterroot which had been studied the day before; but whereas the latter was hardly yet in bud in this place, the Watkins bitterroot had already bloomed and was in fruit. So I climbed several hundred feet higher to the highest part of the Mount Watkins ridge, and there

in gravelly sand scarcely twenty-five feet from a rapidly melting snowbank I was rewarded with beautiful plants of the Watkins bitterroot in full bloom. Queer little worm-like leaves formed a ragged collar about the beautiful rose-pink flowers which grew close to the ground and were about a half-inch across. In fruit, the two sepals spread out like two shells and the corolla and capsule break off leaving the little seeds exposed at the base of the sepals like tiny black pearls within a pair of oyster shells. At the same time, the flower breaks from its stalk and the shell-like sepals serve as wings by which the fruit is blown about and the seeds distributed over the granitic sands.

Even rarer than the Yosemite bitterroot, the Watkins bitterroot is known only from two or three of the domes above the northeast end of Yosemite Valley.

Base Campers will remember that I didn't find the little *Botri-chium* as soon as we reached East Lake. It was three days later, after the flower-show had been set up near commissary and after we had had our first botanical walk, when Dr. Leggett took a group of us to the uppermost glacial basin on the Harrison Pass trail. After about an hour in that treeless, shrubless recess, during which time some watched the rosy finches and ouzels and others scurried about like conies hoarding botanical hay, we descended again to about 11,500 feet to a small brookside meadow where we had lunch.

How well I remember the little meadow and its magnificent surroundings! To the east was Harrison Pass, while above us to the north were the jagged pinnacles of Deernhorn, and to the south towered the grand architectural crag of Ericsson. From our high station we looked westward past the northern, glacier-sculptured escarpments of Genevra and Jordan into the uppermost cirques beyond Reflection Lake, and then around to the northwest to Brewer and its guards. The little meadow was at timberline where the last sturdy whitebark pines gave way to treeless slopes above; and along the brook an alpine willow (*Salix orestera*) formed low thickets. On rocky, gravelly slopes above the meadow the brilliant red of a paint-brush (*Castilleja Brooksii*), the dark blue of a larkspur (*Delphinium luporum*), and the yellow of a wallflower (*Erysimum asperum* var. *perenne*) produced a colorful

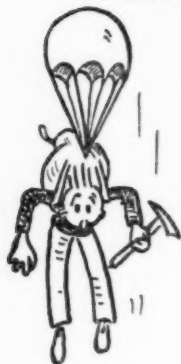
effect, while in the meadow the brilliant spikes of the cerise paintbrush (*Castilleja Culbertsonii*), the pale pink Anderson aster (*Aster Andersonii*), and the rosy saucers of the mountain laurel (*Kalmia polifolia* var. *microphylla*) were set off by the fine dense green carpet of low sedges, of which the most remarkable was the rare *Scirpus Clementis*. Finally the last liverworts and flowers were gathered up and the plant press was about to be closed. I took one more glance around to see that nothing had been overlooked—when suddenly I saw something I had never seen before—no, Oliver, it wasn't *Cryptogramma acrostichoides*, it was a tiny *Botrichium* (*B. simplex*) peeking through the green.



LITTLE GEM CO.

May Pridham, President

CLIMBING AND SKIING EQUIPMENT CATALOG



LITTLE GEM PARACHUTE

Never a dissatisfied user.
Use the Little Gem Parachute
once and you never will use
any other. It is easily fitted
to any rucksack.

CAUTION: In using the
Little Gem Parachute the
climber must not raise his
arms. However, in case
he does make this mistake,
the rucksack is still lowered
in perfect safety.



LITTLE GEM EXPOSURE COLLAR

This is a specially designed collar
for those unfortunate climbers who
are unable to stand heights. The
collar prevents the climber from
looking down, so he does not
worry about the exposure.



LITTLE GEM SUCTION CUPS

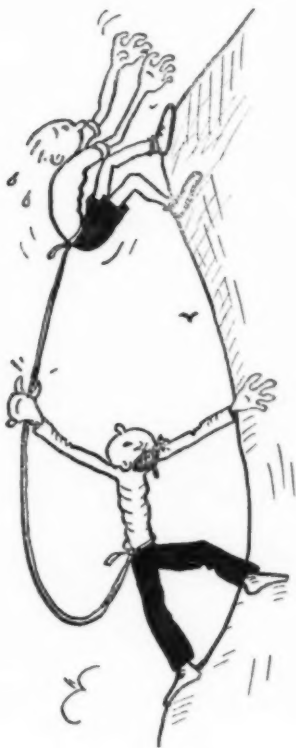
For high-angle friction climbs.
With the use of the Little Gem
Suction Cups even the most
difficult overhangs become
child's play.

CAUTION: Not suitable for
use on sandstone.

LITTLE GEM ROPE NIPPERS

Ideal for use when it becomes
necessary to unrope in a hurry.

SUGGESTION: When one
member of a party is equipped
with a pair of these nippers,
it is advisable that the other
members of the party equip them-
selves with Little Gem Parachutes.



**LITTLE GEM ROPING-DOWN BAG**

Provides a de-luxe method for roping-down.

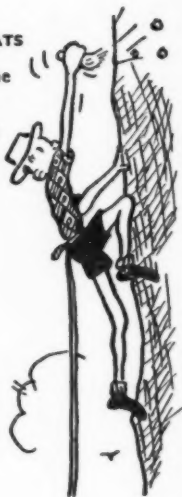
CAUTION: Do not let go of the rope.

In an emergency this bag may be used as a substitute for the Little Gem Parachute.

It may also be used as a bivouac sack when fastened to a piton.

**LITTLE GEM CLIMBERS' HATS**

Useful as well as stylish. The ornaments are removable brushes especially designed for clearing off handholds.





**LITTLE GEM ICE-AX
CUSHION**

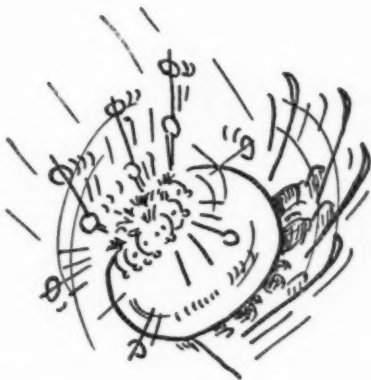
Easily fastened to the head of any ice-ax. Without this cushion you do not get full value from the most common use of the ice-ax.



LITTLE GEM SAFETY BELT

This Little Gem Safety Belt adapts a new-type life preserver to the use of the skier. When the skier feels a spill coming on, a pull on the rip-cord combines two chemicals which form a gas, thus inflating the belt. After a spill, a second pull on the rip-cord deflates the belt.

CAUTION:
Deflate at once!





LITTLE GEM SKI BOOSTER

Easily attached to any pair of skis. Especially adapted to the use of the "three-track" type of skier. The height is adjustable and may be raised or lowered as confidence is gained or lost.



LITTLE GEM SUPER-GELANDESPRUNG SKI POLES

The shaft of the pole is a strong spring. Simply insert poles, exert pressure, and take off.

NOTE: Beginners are urged not to press too hard.

LITTLE GEM SUNBURN PREVENTER

The only sure way to prevent sunburn. All goozles are unreliable.

CAUTION: This device is not adaptable to the use of the rock-climber.



LITTLE GEM SPRING BELT

The belt is strapped on with the spring over the spot upon which a forced landing is most likely to be made.



In case of a fall, the victim is immediately snapped back to his previous position, no altitude being lost.

NOTE: Great care should be taken to land on the spring. Otherwise the belt is useless.

LITTLE GEM RUBBER PITONS

Guaranteed to fit any crack. As they can be pushed in with the fingers, no hammer is needed. They can be used over and over again.

CAUTION: Due to the ease with which the Little Gem Rubber Pitons are inserted, they also come out rather easily. It is best to be equipped with a Little Gem Parachute when using these pitons.



Idaho's River of No Return

By NORMAN (IKE) LIVERMORE

AS a wilderness enthusiast, I had long been beckoned by the mountains of North Central Idaho. Here, in a rugged region too rough for such early explorers as Lewis and Clark, lies the largest stretch of wild mountain country left in the United States. A journey down the Salmon, the "River of No Return," was a long-standing dream with me, one I did not expect to realize so soon. But last October the chance came. With three other friends I seized it joyously, and October 16 saw us loaded and ready.

Our boat was a two-sweep scow, identical in construction to the one used by the National Geographic Society—U. S. Geological Survey Expedition of 1935. There were seven of us on the trip—Walter Newhall, Stuart Rawlings, Frank Hayward, Monroe Hancock, Billy Taylor, Bob Hagel and myself. Our boat, christened the *Scarlet O'Hara* by her builders, Taylor, Hancock and Hagel, was eight by thirty-two feet over-all. Its front and rear sweeps extended fore and aft ten feet beyond bow and stern respectively. A central deck, three by eight feet, was built midship at gunwale height, two and a half feet above water line. This was the platform on which the sweepmen operated while we traveled, and was also our convenient and level, but oh, so sandy, kitchen table.

We set the trip for October with some foreboding as to the weather; but this was the best time for hunting, our main objective, in which we were not disappointed, each of us bagging a fine mule deer and a goat, while Rawlings got an elk as well. This country is very steep and rough to hunt, but there is plenty of game. It was a good workout each hunting morning to climb about 3000 feet out of the gorge before starting to hunt. But steepness had its advantages in the late afternoon, when legs were weary and appetites ravenous. Then it was often a case of a straight schuss to camp, but without benefit of snow. In fact, one dark evening, I not only schussed, but went sailing over a cliff by accident. I thanked my lucky stars that I landed in a clump of mountain mahogany instead of on a pile of granite.

Apart from the hunting, the most memorable part of the trip was the boat ride. Although in the last few years, the work of the

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CCC has greatly reduced the roadless area, there remain over 100 miles of river between the approaching road ends, and the trip is still aptly called "the wildest boat ride in America." We went over eight-foot falls, some twenty very swift boulder-strewn rapids, and endless swift water. There is only one half-mile stretch of calm water, so there is never a dull moment while traveling.

Our head boatman, Hancock, was uncanny in the way he handled *Scarlet O'Hara*. Veteran of years of river running down to his own little homestead midway between road ends, he has also taken several outside parties down by scow, notably the Geographic trip already mentioned. His knowledge of the river is almost unbelievable. As a Sierra packer, I have learned to respect and honor the knowledge of the Sierra possessed by a few old-timers. From years of travel, they know several hundred miles of trail, the location of campsites and horse feed. But such knowledge seems small in comparison with Hancock's. He seemed to know literally every rock in 100 miles of river. And he knows as well the complete stretch from Riggins to Lewiston, the lower part of the trip that we did not take because the country has been spoiled by roads. When running the river, he would time and again take a sudden zigzag through an innocent-looking rapid. Puzzled by his apparently unnecessary maneuvers, we would look back to see that his crooked course had prevented a crackup on one or more hidden boulders. Crackups, boat losses, and even drownings have been numerous on this turbulent river, but Hancock has never failed to get his boat through. Our boat proved no exception, although Newhall did have one narrow escape. He was rudely upset while trying to take our small auxiliary rubber boat through a fair-sized rapid. Luckily, he came up near a lone rock in mid-rapid that was big enough for him to grab hold of, and close enough to the bank so that we could throw him a line and pull him ashore. Another hundred yards of fighting the cold, swirling waters might well have proved disastrous to him.

The boat trip proper started at the junction of the Middle Fork with the main Salmon. This is reached by a road leading sixty miles west from the town of Salmon, which in turn is 130 miles almost due north of Sun Valley. The ride finished at road's end about twenty miles east of the town of Riggins in westernmost Idaho. We were on the river fifteen days in all, but made only

eight camps. Our nine running days varied in length from three to thirty miles depending upon whether we were merely moving on to a new hunting site or really spending several hours of river running. Hancock has made over fifty miles in a day many times when water was higher and he was in more of a hurry. "Captain" Guleke, the famed early day Salmon boatman, is said to have made the entire trip from Salmon to Riggins (180 miles) in two days. Hancock himself once took a ten- by forty-foot scow down. The load was eight tons, and it took two men to handle each sweep.

Camping on the Salmon is far different from the Sierra, and in many ways less pleasant. It is very convenient to be able to land right in camp, cook in the boat, forget all about packsaddles, diamond hitches, horse feed, or unpacking duffle bags and rucksacks. But on the objectionable side there is the scarcity of campsites, difficulty with drinking water, lack of sun, abundance of dew and moisture of all sorts, and excess of sand. In the deep gorge, the canyon walls often rise sheer for a thousand feet or more. We started the trip at an elevation of 3000 feet, ending at 1800. Peaks often rise directly above the river as high as 6000 feet. With the October sun circling well to the south, we practically never saw it, and perpetual cloudiness did not help. As a result, the river water was much the coldest I have ever felt, bar none.

A major disappointment was the extreme muddiness of the main stream, caused by heavy September rains. This made it necessary for us to get drinking water only from the infrequent side streams. The latter were usually cascading into the river over rocky slopes where camping was impossible. Although there is excellent main-stream fishing in July and August, it is confined to side streams in October. Here we found as good trout fishing (cutthroat, Loch Leven, and rainbow) as we have in the Sierra. But the majority of side streams are too rough to be fishable.

Driftwood for cook and camp fires is abundant. But campsites are not so frequent. For long stretches, there are no level spots large enough for a sleeping bag. Almost without exception, the only available sites are small sand bars that are level and convenient when found, but very damp and, obviously, sandy. The heavy dew plus the penetrating qualities of river sand make it difficult, if not impossible, to keep bedding and equipment dry and clean. I was thankful time and again for my packer's bedroll

with its bulky, many-folded tarp—the kind that high-trippers like to kid packers about. It kept me dry and clean where the others with ordinary sleeping bags often had an unpleasant time.

Although we had tents along, and the weather was perpetually threatening, we had only one night of rain out of fifteen. Tents were pitched several times, and each time succeeded in driving the rain away. We were told that it practically never snows on the river at that time of year, but we were very fortunate not to have had more rain—particularly unpleasant in an open scow.

In spite of its inferiority to the Sierra from the camping point of view, we found the Idaho wilderness had much of appeal. The scenery was superb, the hunting unsurpassed, and the boat travel a continuous thrill. Each of us returned from the trip more than satisfied in spite of our eager advance optimism. When a trip is anticipated as enthusiastically as was ours, there is too often found to be a disappointment upon realization. But this certainly was not the case with us. We would all go again, enthusiastically.

Our disappointment comes from a different source. This wonderful Idaho primitive area is in imminent danger of being destroyed, more so than is the Sierra wilderness. The specific destructive agencies are two CCC camps at work on a road which eventually will skirt the banks of the Salmon for its whole length. As is almost always the case with wilderness-spoiling roads, the drive for road completion here is based on no fundamental economic need. There are no large centers of population requiring such a traffic artery. There is no mining, lumber, or other economic activity that the road will open up. It is being pushed, as usual, by two local chambers of commerce who hope for increased auto tourist travel, who do not subscribe to the thesis that there are already more scenic roads in the United States than a vacationist could possibly travel in a lifetime.

The Salmon River, running through the heart of the remaining wilderness, will then no longer be wild. No longer will it be termed "The River of No Return," because return journeys will be made in both directions by jitney. No longer will Hancock pilot his picturesque craft down to his isolated frontier homestead. And no more will the abundant game be safe from the automobile hunter. But while it lasts, at least, we can heartily recommend our voyage as unique among the thrilling wilderness trips in the United States.

Photography and Cedric Wright

By ANSEL ADAMS

IN its more popular aspects photography is a hard, sophisticated expression fraught with the metallic qualities of the machine and the frigid earnestness of physics and mathematics. It is a creative and vital art, however, when it exceeds its physical restrictions and becomes a living force within its expressive limitations.

There are very few great artists in photography; it is significant that they have never overlooked the simpler things of the world in their search for basic subject material. In the world of Nature—clouds, rocks, water, snow, grasses leaning on the wind, storm-shafts of sunlight on a far-off mountain, the urgent growing forests and the mute documents of long-dead boles and stumps, and quiet roots flowing among the stones—a tremendous potential for photographic statement unfolds. In the world of men, the intimate gestures and fragments of everyday life, moments of communication, people themselves and the things people create—all these things may be transfixed and revealed by the miracle of photography. The impartial receptivity of the lens, and the generous selectivity of the sensitive films, record for us, in terms of our perception and decision, the world of our immediate experience. Fluently expressed by photography, the minutiae of Nature and of human experiences are suggestive of the larger and more profound patterns of thought, emotion, and actuality. The still, small voices are forever blending in infinite and insistent choir.

People such as Cedric Wright hear these voices, and record them with beauty, understanding, and a deep sincerity. His technique is sensitive and adequate for the solution of exacting problems; he sees in the living world of Nature and of Friends the symbols of a more perfect life and the evidences of a deeper universal understanding. His approach is philosophical—mystical at times; and in every creative statement there is imagination, revelation, and a pervading gentleness. Unique among photographers is his ability to perceive and transmit simple humor and yet retain dignity of mood. His photographs are an important and exciting contribution to the collective interpretation of the Natural Scene.

Mountain Photography

By CEDRIC WRIGHT

PHOTOGRAPHY of any kind requires a consideration of both materials and approach; for the subject of mountain photography it is perhaps best to discuss the easiest portion first—materials. To consider the simplest equipment, I have seen good photographs made with a Brownie camera. But a K2 gelatin filter was fastened permanently behind the lens, the fastest film was used, composition and lighting were taken into account, and the films were properly developed. In other words, it was not used like a Brownie camera.

For the widest variety of uses in mountain photography, however, my choice is a $3\frac{1}{4} \times 4\frac{1}{4}$ or 4×5 Speed Graphic with Graflex back. If there could be built into this camera a tilting back, a more ample rising and falling front, and a longer bellows, the Speed Graphic would come close to being ideal. The Speed Graphic is a light camera, and has the advantage of a focal-plane shutter—especially important for such subjects as rushing-water patterns; moreover, when on long trips if the between-the-lens shutter gets out of order, the auxiliary shutter is available. A range finder converts the Speed Graphic into an excellent "candid camera," with the advantage over the miniature of larger film. The need of a miniature for great depth of focus at fast speeds is now greatly offset by recent fast films. Cameras much smaller than $3\frac{1}{4} \times 4\frac{1}{4}$ mean diminished returns in the print quality of enlargements, and they mean worries over fine-grain developers. I believe these considerations ought to outweigh the advantages of smaller cameras. In the mountains the Speed Graphic is used mostly as a view camera and its ground glass focusing is employed. The Graflex back and front permit change of lenses and the use of Graflex cut film magazines, roll film magazines, or of film pack adaptors. From what follows, the advantage of interchangeability of film magazines will be evident.

As for larger cameras, in many situations they are first choice. But weight and expense increase to frighten anyone but a martyr. With large film size, more "stopping down" is needed to obtain adequate depth of focus. This is impossible if subjects are in

motion. However, the swing back of large view cameras helps depth of focus considerably. It is hard to see subjects if one is exhausted from packing too much camera, or from pushing a camera-laden mule up the trail. Nevertheless, for still subjects or moderately quiet scenes, the 5 x 7 or 8 x 10 are far preferable for fine print quality.

FILM MATERIAL

On mountain trips it is well to be provided with a large supply of film. This is especially important when one's discrimination and control of results are not of the highest order. We hear stories of the famous artist photographer who brings home a single superlative negative, but we can hardly adopt his ways successfully.

I use only panchromatic film. It is filter-conscious. When individual development for each negative is imperative, film packs are first choice. In the $3\frac{3}{4} \times 4\frac{1}{4}$ class, roll film will average up very well for mountain use. Although occasional need is felt for the special development of individual negatives, these subjects can usually be adequately taken care of in the printing. One can safely give soft development to most mountain subjects. The loading of cut film on mountain trips is to be discouraged. Especially in mosquito country, one is apt to shower dust, scratches, and curses on the choicest negatives, in a changing bag.

I carry two Graflex roll film magazines or two film pack adaptors, one for slow fine grain emulsion and one for the fastest film available. Usually an equal number of each kind of film is needed. When subjects are at rest, the slow film is preferable for its longer scale and stronger printing quality. But for all moving subjects the fast film is best. If only one type of film is carried, I recommend the fast one. Any advantage of scale and density in the slow film is more than made up by the fast film's ability to give depth of focus in all types of subjects. The most common fault in amateur photography is excessive contrast, and this can be minimized by the use of fast films wherein the effective density-range is largely in the foot and lower straight-line sections of their characteristic curves. Faint shadow values will register with more subtle accuracy on fast films. Direct sunlight at high altitudes is more intense than at sea level, due to the comparative rarity of the atmosphere; but, in turn, the shadows are deeper, as there is less

scattering of reflected skylight than at sea level. A basic increase in contrast of subject-values obtains as altitude increases. More will be said on the control of shadows under the headings "Filters," and "Lighting and Exposure."

LENSES

Although I have not been privileged to experiment with many different makes of fine lenses, I am especially content with the quality of Goerz Dagor lenses for this type of work. Lens quality being a matter for individual choice, I like to believe the sensitivity to feel such shades of difference is part of the personal equation needed for work of quality. Perhaps I would dislike to be asked with what lens a certain picture had been made! I do know that besides a peculiar elastic crispness, the Goerz Dagor has a large covering power, a quality necessary when the rising front is used.

I prefer the image quality of regular lenses to that obtained from the single elements of a convertible lens. I carry four lenses of varying focal length. In composing a picture, one often requires a lens of certain focal length, not only to obtain the desired image size in situations where the camera position cannot be altered, but also to give the best perspective effect to the composition.

FILTERS

In mountain work, the chief use of filters is to govern the separation between clouds, mountains, and sky, or to clarify the atmosphere when blue haze obscures desired distant detail. There is a great complexity of filter control, in the darkening of bluish shadows and in the darkening or lightening of different colors; but my limited space requires that these considerations be studied in some book on filters. With panchromatic film the most useful filters are the Wratten K₂ and G. Often used are K₁, A., and X₁. Equivalents in makes other than Eastman's are, of course, in the running. I prefer the plain gelatin without glass covering, for optical reasons. With care these last a long time. I have rigged up a filter holder behind the lens. This makes the screening of sunlight from the lens an easier matter.

OTHER CONSIDERATIONS

I have made a single sunshade for use with any one of my lenses. It is constructed with leather hinges, of eighth-inch plywood, black-

velvet lined. I have an auxiliary sunshade of similar construction which telescopes over the first one. This rig gives the greatest possible coverage for any lens used. Although any object may shield the lens from direct sunlight, there are still harmful ground reflections, making the use of a real sunshade important.

Equally indispensable for serious work are a light and firm tripod and a good exposure meter.

The lightest carrying system is to keep the camera on its tripod, covered with a rubber rain and dustproof focusing cloth, held in place with a strong elastic band. Lenses and other accessories can go into a light made-to-order rain and dustproof case, carried knapsack style. Edward Weston has painted his box white as a heat repellent precaution. For showers, an extra oil silk covering is advisable for the camera, and a good poncho for man and pack. A rain hat is especially important.

LIGHTING AND EXPOSURE

I would rather photograph a simple subject with lovely lighting than a famously beautiful or spectacular scene with a poor light direction. Often, for textural results the soft diffused light of an overcast day is ideal. Under such conditions a slight under-exposure, with a full development, gives surprising qualities. This soft light is ideal for scenes in the forest, where a bright sunlight is far too contrasty. Even with soft light a forest scene will contain contrasts calling for full exposure and soft development.

Taste and originality in the handling of negative and print contrast is the key factor in the making of fine pictures. To this end it is well to visualize at the outset what interpretation, if any, or what stress is to be given the scene being photographed, so that each step leads to that end. The landscape will suggest its own mood, which at times should be intensified or seriously dramatized beyond the factual representation, in order that the photographic reproduction will speak with sufficiency.

I am personally very fond of back lighting or side lighting. There are obviously many occasions when a subject looks well with other lighting and should be so photographed. The fine shadows in back lighting need careful handling. Unless very dark shadows are wanted, the exposure must be more or less timed for the shadow area only. Exposure indicated by an average meter

reading should be increased from two to four times, according to the severity of the contrasts and scale of film used. The film is then to be developed soft.

CONTROLLED DEVELOPMENT

The least preferable method of developing soft, but one which can be expected of commercial photo finishers if asked for, is to cut the time of development twenty or thirty per cent.

A better method is to use a formula such as the Eastman D7 or D1 or the equivalent Agfa 45. Cut the carbonate from twenty to fifty per cent, according to the scale, or contrast potentiality of the film used. The developing time may need to be increased twenty per cent or more. Any longer development will not be very conducive to soft negatives. Instead, the exposure time should have been longer. In any developer such as Agfa 45 one of the carbonate functions is to soften and open up the film emulsion. The result of cut carbonate, then, may be roughly illustrated by imagining a magnified cross section of the emulsion. The shadow area may be exposed into the emulsion to a depth of, say, two feet. The exposure in the high lights has penetrated six feet; but the cut carbonate only softens the emulsion sufficiently to allow the developer to penetrate three feet. The shadows therefore receive full development, while the high lights do not.

Another method of controlled development is known as the Knapp system, after the Australian photographer who first described it. The film is alternately developed for half a minute in a normal developer (no reduction of carbonate), and transferred for two minutes to clear water at developer temperature. The film must lie absolutely still, emulsion side up. Apparently, some of the retarding action on the high lights is caused by the presence of the bromide by-products of development, and some by the more rapid exhaustion of the developing agent in the high light areas during the water bath. Still another method, the "P and H" system, which depends on this exhaustion of developer in the high lights, is too new to me to warrant an expression of my opinion at this time.

No matter which method of development control is used, it is still necessary to time the process. For me, the best way to judge development is to give a quick glance (by properly subdued light)

at the emulsion side of the film just before development is expected to be finished. With a little practice the look of a developed film can be correctly judged. Should a few trials prove that one's judgement cannot be relied upon, the time and temperature method is recommended.

COMPOSITION

Rules of composition seem to be in ill repute nowadays. Perhaps this is because there is much feeling on the part of photographers that the basis of composition lies not so much in rules as in impulses, which in turn are based on a real love of beauty in the subject matter, a broadly esthetic and cultural training, and a competent technique. In contrast to this approach, we see voluminous and sterile work, produced with little more than an eye on the cookbooks of composition. One should therefore work by instinct, and after having read the rules, remember them in a sort of subconscious way. In so doing, a fresh and fine interpretation is often attained. A scene may click definitely, so that it could perhaps afterwards be analyzed without embarrassment, into new rules of its own making. This is a very different thing from saying that the venerable rules of composition are not valid. As in music, or anything else, rules condense in the wake of fine original and vital expression. There is an emotional and psychological grace about work done when rules and creativeness are kept in proper relationship.

Now, after all this warning, I might mention some of the generalities which are worth thinking about, but which I almost hate to grind out:

1. Try to simplify subject material. Often a shift of camera position of but a few inches will eliminate insignificant detail.
2. Do not divide the picture space into equal parts, horizontally or vertically.
3. If the chief interest is in a fine cloudy sky, put the horizon below the center. If a fine landscape is burdened with an uninteresting sky, put the horizon near the top.
4. Keep the main object of interest off center. Try to find a camera position which brings some smaller mass to the opposite side of the picture and nearer the edge.
5. Try to find subjects with long, graceful lines, which lead into the picture and into the distance, within the picture.

6. In framing subject matter, one main center of interest is usually best and enough.

7. Study the picture margins, avoiding anything which attracts much attention near the picture edge. Avoid lines parallel to margins. (Trees don't count!) Avoid light foreground or light areas near the edges. Segments of area along the margins usually don't look too well if one to one, or one to two, in size.

The most important consideration of all remains—to try to cover the relationship of photography to our serious reactions to nature. And in this it will be hard to avoid making a noise like an oracle. In photography one is translating, somewhat, from one language to another. Rock, cloud, water, and fire, in all their aura of light and sound and depth, must be translated into the language—the materials—of a photographic print. In the 1928 and 1935 issues of the *Sierra Club Bulletin* I expressed this more fully, and refer to these articles now. For this, both languages must be thoroughly felt and understood. This begins to be possible only when one's range of dynamics and tones is that of a full-scale keyboard, and at the fingertips. Then photography is an ample voice, a resonant language. Our materials then become rich in resource.

The mountain photographer is interpreting the face of nature—that mysterious infinity, eternally a refuge, a reservoir, an amplifier of the spirit; a mother of dreams; a positive though elusive voice in whose depth lies its subtlety. They will interpret best who are never so content as when under the influence of situations where silence is rich in the mute assurance and beauty of mountain surroundings. The quality of emotional knowing has a finer integration with our spirit than anything that comes from barren intellectual processes. This point of view only accumulates slowly, out of long experience and contact with wordless influences. Under the spell of solitude and of natural beauty the root system of this kind of awareness establishes itself.

Great art is usually created under some such saturation of awareness. The work is then permeated with an inner perception of beauty and an inner personal philosophy. The hope for our photography is that it shall retain these high lights of more than beauty, that through it symbols shall be preserved of response to our mountains, keeping them to flow, a golden thread, in our experience.

Equipment and Technique for Camping on Snow

PART II. THE SECTIONAL TENT*

BY BESTOR ROBINSON

Chairman of the Sierra Club Winter Sports Committee

MOUNTAINEERS in general and ski-mountaineers in particular are a demanding lot. They want a tent which is light in weight, strong in construction and thoroughly waterproof. It must be large enough to use either as a ground cloth or as a "huddle sheet." It must have a floor when that is needed, but no floor when dry pine needles are available. It must be capable of being closed blizzard-tight, but also opened wide enough to serve as a heat reflector. Finally, it must be usable either alone or in combination with other similar sectional tents.

The development of "come-apart" zippers and new lightweight, waterproof fabrics has opened the possibility of meeting these demanding requirements. The design is submitted for criticism, experiment and improvement.

Materials. One 57-inch come-apart No. 5 Talon slide fastener, self-locking with hole in tab. Tape to continue three inches beyond both ends of teeth.

One 91-inch come-apart No. 5 Talon fastener. Additional specifications same as above.

Note: Zippers, fabrics, and complete tents are available through usual retail outlets or American Tent and Awning Co., 1132 Mission Street, San Francisco.

Ten yards five-eighths-inch binding tape.

Two tent pegs made of hard duralumin sheet cut into triangles three inches wide and twelve inches long, bent in center and notched near top (for summer use).

Ten feet three-sixteenths-inch cotton line.

Four rubber bands three-fourths-inch wide.

Waterproof or water repellent cloth. The amount per tent is determined by width of cloth, reversibility of cloth and whether one or more tents are to be made. Three and one-half yards of 42-inch reversible cloth will suffice. There is no single type of cloth which is clearly superior to others. The weight, however, should not be over five ounces per square yard. Lightweight poplins (parka cloth) treated with Zelan or Aridex are the best water repellent materials. In the waterproof class one can choose from many types. Neoprene (an artificial sun-resistant rubber) does not stiffen at low temperatures. So-called oil silks are rather fragile and most of them become

*Part I was published in *Sierra Club Bulletin*, 1937.

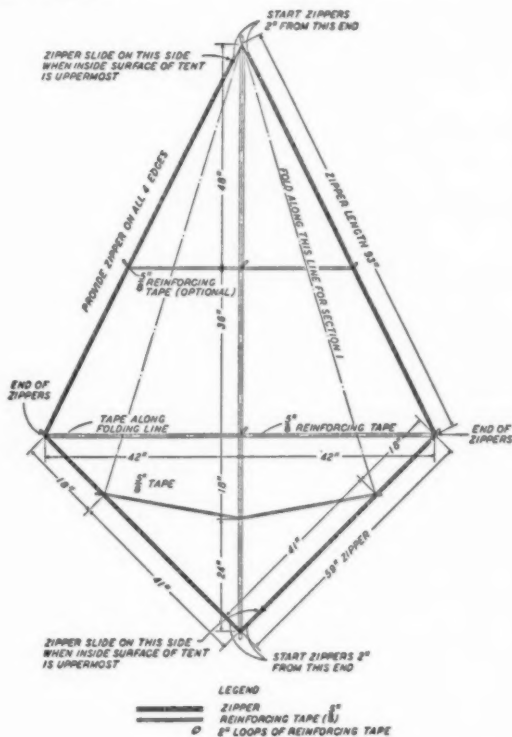
brittle in freezing weather. Numerous plastic-covered fabrics have recently appeared on the market, most of which are thoroughly waterproof and sun resistant, but, on the whole, stiffen at extremely low temperatures. Here are a few suggested materials and sources of supply:

(a) Zelan-treated poplin produced by Burton or Wamsutta Mills, "element cloth" by Sea Island Mills, and Denali, Byrd and Grenfell cloth should all be available on order through regular retail channels.

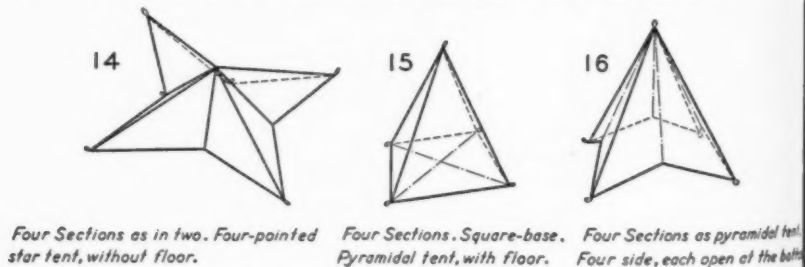
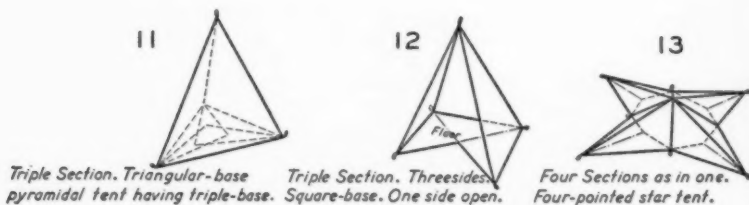
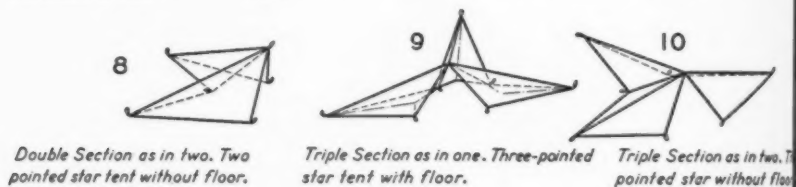
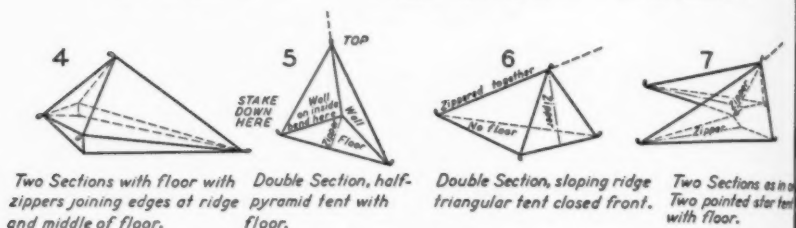
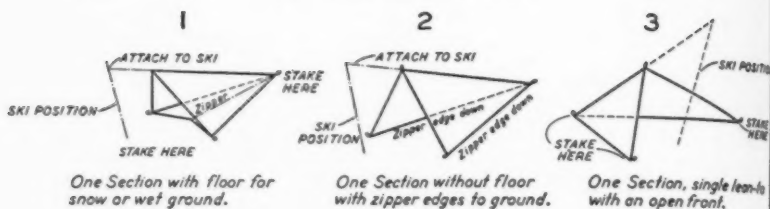
(b) Super H H Balloon cloth, 42 inches wide, available from airplane supply houses. It is not treated, but is probably the best base for a water-proofing treatment, as poplin is the best base for a water repellent treatment.

(c) Neoprene covered fabrics, Dupont Company, Fairfield, Connecticut.

(d) Koroseal covered fabrics, Comprehensive Fabrics, Inc., 37 W. 27th Street, New York City.



BASIC FORMS FOR SKI TENT



TYPES OF ASSEMBLY

(e) Pliofilm covered fabrics, Goodyear Tire & Rubber Company, Akron, Ohio.

(f) Ethocel covered fabrics, Dow Chemical Company, Midland, Michigan.

(g) Cellophane covered fabrics, Dupont Company, local branch.

Directions for Construction. 1. Fasten material on floor and mark out pattern, taking care not to reverse sides of material unless material itself is reversible. Layout will depend on width of material. Do not have material on bias on final layout.

2. Cut material, allowing additional width for seams, and sew material into basic design.

3. Pin zippers in place on *inside* of tent, taking care that *beginning* of zipper is two inches from front and rear points of tent and that zipper slide is on side indicated by sketch. Tab should be on inside of tent.

4. Sew on zippers, extending material as close as possible to metal teeth so as to protect zipper tape from rain.

5. Sew loops on *outside* of tent. Tapes may be either inside or outside, but should be thoroughly fastened to each other where they cross and also to zipper tape. The tapes constitute the structural framework.

6. Tape seams may be waterproofed by Korolac (Goodrich), Neoprene cement (Dupont), or other appropriate waterproofing material. Rubber cement disintegrates in time under sunlight.

Use of Tent. Because the tent is made of light materials, it is always pitched with rubber bands three-fourths inch in width attached to all loops in use. This keeps it taut at all times, but prevents tearing strains.

In summer, unless the ground is wet, the floorless designs will be used on top of fir boughs or pine needles. The open front designs permit the use of a small warming fire, radiating heat into the interior. Normally, trees will be used for suspending the ridge or peak, although poles can be utilized instead.

Since nearly everyone knows how to pitch various types of summer tents, no special instructions are necessary.

In winter a bed of boughs or a lightweight air mattress adds greatly to comfort, but is not indispensable. Extra clothing should always be put under shoulders and hips for insulation from the snow.

Skis are used as main poles and ski poles, upside down, as tent pegs as a rule—in fact, for winter use no other tent pegs are necessary.

For four men the pyramid tent is the best design. It can be pitched with a single ski as a center tent pole, heel on a ski pole

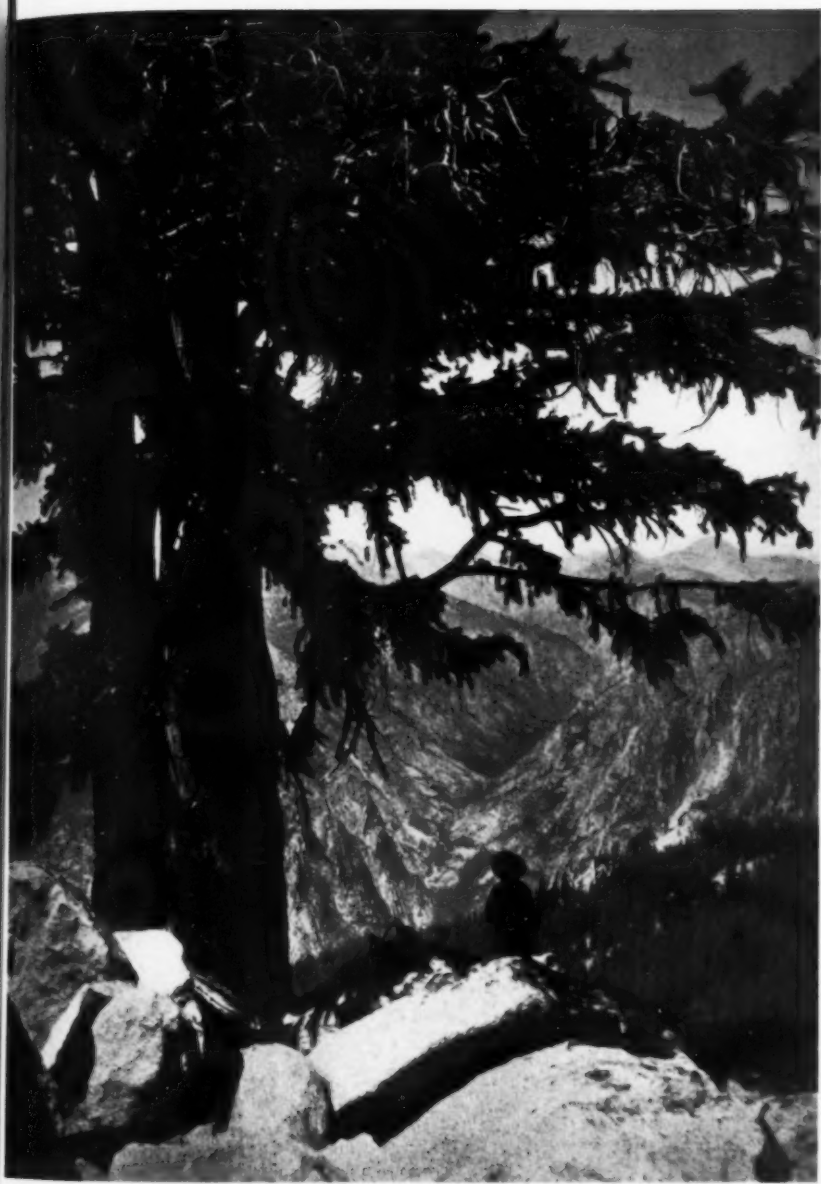
basket and the four rubber bands at the peak attached by string to the tip of the ski. The tent can be bulged out by guying the center loops on each side (three feet above ground) to four skis upright in the snow. The pyramid tent is high enough for a man to stand upright and offers adequate room for cooking over a primus stove. When cooking, zip back one of the quarter sections of the tent floor, so that any pots which fall over will spill on snow. In a blizzard, snow for cooking can be secured underfoot without opening the tent and letting in the snowstorm.

The star tent (including its one man sections) is not high enough to permit sitting upright, but has the advantage that it can be pitched in less than a minute. It is wide enough to accommodate a form-fitting bag.¹ The forward guy should be attached to the loop twenty-four inches back from the front tip and the front loop independently attached to the guy line. This permits dropping the front and zipping it together in a blizzard. Two or more such sections zipped together provide adequate space and protection for a primus stove. Where several sections are used, two sloping skis with heels well jammed in the snow are better than a single vertical ski as a tent pole.

Betterment of camping equipment can only be secured by critical experimentation. I would appreciate being informed on the results of experiments by others. Particularly, accurate information is needed on the best materials for light tent construction.

¹ "Mummy-case" bags are now available through usual retail outlets under the names of "Ski Tourer," "Ski Camper," and "Ski Mountaineer." Simon Mattress Manufacturing Company, 1777 Yosemite Street, San Francisco, is the maker.





AVAILANCHE PASS — 5000 FEET ABOVE KINGS CANYON By Weldon F. Heald





CROSSING GLEN PASS By Weldon F. Heald





AN ALBERT MARSHALL PANORAMA OF KINGS CANYON NATIONAL PARK By Cedric Wright



GRAND SENTINEL

Possibly the earliest photograph taken in Kings Canyon National Park.



"THE WATCH TOWER" (SPHINX)

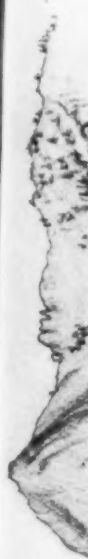
By W. E. James, 1875



BELOW PARADISE VALLEY, KINGS CANYON NATIONAL PARK By Thomas Morley



Mt. Bolander 13,659 feet.
 sketched July 2nd 1884
 taken at the top of the mountain from the top



Mt. Baldy 13,657 feet.
 sketched July 2 & 3 1894
 taken at the highest accessible place



Hawk Rock 2000 feet above 'avenue'
 near camp, 181 in elevation 8 miles
 from summit July 26th.
 2 miles S. W.

CLIFF ABOVE LOWER CHARLOTTE CREEK From a sketch by Charles F. Hoffmann From Up and Down California, by permission of Yale University Press



ON THE LOST ARROW, 800 FEET BELOW THE TOP By Richard M. Leonard

SNOWPATCH



SNOWPATCH SPIRE By Spencer Austin





SOUTH FROM MOUNT CLARK By David R. Brower



NEAR NORDEN By David Burd

NEAR NORDEN



NEAR NORDEN By Henry E. Timby



EAST LAKE AND THE KINGS-KERN DIVIDE By Weldon F. Heald

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South of the Southern Cross

BY LELAND CURTIS

WE approached the Equator in calm seas with just enough breeze to keep our canvas full. It was a wonderful experience to stand on the deck at night as the *Bear* plowed through purple water, leaving flashes of submarine fire. Overhead the Southern Cross dominated a glorious display of stars. The sails were illuminated by their light and a dim glow from the deck. Somewhere ahead of us, over the black horizon, waited our great adventure.

It is traditional among explorers of the Polar Regions that no matter how welcome may be the start for home, there will inevitably come the wish to return again to those remote, cold and austere places of the earth. So it was with my friend Richard Blackburn Black, civil engineer with the second Byrd Expedition. Shortly after his return from that experience, he had started planning a four-man dog sledging expedition to explore and map part of the unknown coast west of Charcot Island in the Pacific Quadrant of Antarctica. Several other countries were manifesting interest in the antarctic regions, notably Germany, Japan, France, England, Norway, Argentina, and Chile. Black's plan had been rather well developed when the United States Government became interested and appropriated \$350,000 for an official expedition. Since I had been included in the original plans for the four-man sledging journey and had been kept posted as to progress, it was not entirely a surprise when I received a communication of the wish of Admiral Byrd and Dr. Ernest Gruening, Director of the Division of Territories and Island Possessions, that I should become associated with the new project. From the Secretary of the Interior I received my appointment as a member of the newly created U. S. Antarctic Service.

Some experience in skiing and mountaineering was considered of value in making my services useful in the general field program of the expedition. In addition I was to paint antarctic scenery. Admiral Byrd was designated Commanding Officer. Most of the personnel were selected from volunteers for detached duty from

the United States Army, the Navy, as well as the Marine Corps.

To Dr. Linus Pauling, head of the Chemistry Division of the California Institute of Technology, I presented my problem of keeping oil colors plastic enough for use in antarctic cold. He generously offered me the use of a laboratory in which to experiment in search for a formula which would avoid that difficulty. I succeeded in developing one which would retain normal consistency of pigments at forty below.

After being sworn in at Washington and assembling my gear at the Boston Navy Yard, I joined the U. S. S. *Bear*. My painting materials, personal belongings such as clothing, a few luxuries, and four pairs of steel-edged skis, made a not inconsiderable addition to the tremendous accumulation of expedition supplies and equipment. When the moment of our departure came, it was with excitement and anticipation that we headed for the open sea.

We encountered a gale the first night out. The ship rolled forty-two degrees, deck cargo shifted wildly. All night everything which had not been well secured crashed again and again into the bulkheads. I was fortunate indeed to be one of the very few who went through that storm and all succeeding ones without seasickness. Our seventy-five expedition sled dogs were the picture of absolute misery. The ship rolled and heaved—and so did most of the living creatures aboard. Later we encountered several storms. The seas became tremendous and green water broke over the deck. It was impossible to traverse the ship without using life lines. Some nights we found it necessary to secure ourselves in our bunks to keep from being tossed out. For two days in a row our meals consisted of sandwiches eaten while we braced ourselves against the stanchions. The decks of the historic sixty-seven-year-old *Bear* were crowded with dog crates, dogs, gasoline drums, and the Barkley Grow seaplane. The other expedition ship, the U. S. M. S. *North Star*, carrying the heaviest cargo, was about a week ahead of us when we cleared the Panama Canal and headed direct for Little America.

As we neared the latitudes in which we might expect icebergs the air grew colder and the sea temperature dropped considerably. Captain Cruzen offered a prize of a carton of cigarettes for the first correct report of an iceberg sighted. Eventually this ceased to be a game, for we were finally surrounded by the great tabular

bergs which are wrested by the sea from the Ross Barrier. These beautiful blue and white bergs are truly fit guardians of the Antarctic Continent. Their majesty is indescribable. Some have been reported which measured over twenty miles in length. After we had grown used to the icebergs we encountered the pack ice. This is the sea ice which has been formed during an earlier winter about the fringe of the Antarctic Continent. When more or less broken up into floes and cakes it floats in tremendous areas on the Antarctic Ocean, interspersed here and there with the larger bergs.

We followed a lead which took us well into the pack before it closed across our route. At the time no one recalled the fact that of thirty-three ships built at the same time as the *Bear*, she was the only one still afloat, the rest having been crushed and sunk by ice, as was Shackleton's ship in the Weddell Sea. Ice pilot Bendik Johansen and sailing master Captain Cruzen were in the crow's-nest most of the time telephoning commands to the bridge as we followed the intricacies of the narrowing pattern of open water. We rammed some of the heavy masses of ice and could feel the deck heave under foot and subside again, accompanied by an ominous creaking of the old ship's timbers. At last we were stopped by impenetrable pack. As far as the eye could see, in every direction there lay only a desert of fantastic ice forms.

At the last moment when there was definitely no chance for us to proceed farther, an opportunity came whereby we were just able to turn the ship about. Luckily we could follow approximately the same lead we had used going into the pack. We lost a couple of days at this and then sailed far enough north to clear the pack before heading west for the 180th meridian. Reaching it we turned south towards the Ross Sea. After another lesser brush through lighter pack we came presently into comparatively ice-free waters and approached our rendezvous with the *North Star*. On her trip south she had touched Rapa Island, Pitcairn Island, and New Zealand. We of the *Bear* had seen no ship or land for thirty-three days.

Lest we be misled by the clear, sunny, though cold weather of the last two or three days before we reached the continent, the weather gods veiled the Barrier Coast in mist and snow as we approached. The *Bear*, searching for the *North Star*, moved slowly in towards the ice-front of the Barrier. When the *North Star* was

sighted, she was already tied up to the bay ice and was discharging cargo. With blasts of their whistles echoing along the Barrier wall, two ships alone at the edge of an almost unknown continent greeted each other. When we approached closer we hailed our friends with glad shouts.

Everyone was happy to get on the ice, especially the dogs. We were greeted by several penguins—the funniest things in nature—and a few other birds. There are no animals on the continent other than seals. Even these do not remain throughout the year but migrate to warmer climes. We killed as many seals as could be found in order to assure a good supply of dog food during the winter.

The South Pole is in a circumpolar continent surrounded by ocean, whereas the North Pole is located in a circumpolar ocean surrounded by land. Antarctic temperatures are said to average forty degrees colder than those of the Arctic. The continent of Antarctica has a mean altitude of 6000 feet, almost twice the mean altitude of Asia, including the Himalaya. The geographic South Pole is at an elevation of between 9000 and 10,000 feet. The greatest width of the continent is 3400 miles, and its area is equal to that of the United States and Mexico combined.

Although for the greater part covered by a sheet of ice known to be as much as 2000 feet thick in places, there is, nevertheless, a great deal of exposed rock in the mountain areas. Some peaks are known to exceed 15,000 feet in height. Of course there is a great deal of ice on these peaks too. The main continental ice-sheet extends out over the sea many miles from land and presents a front about 100 feet thick.

Our party established the new Little America about three miles from the edge of the Barrier on this floating shelf ice, 125 miles away from the nearest visible land. Everything had to be unloaded on bay ice at the edge of the Barrier and hauled over the ice to the camp.

Once I went on skis to join a party of eight who had gone over the bay ice and up the slope of drifted snow which leads onto the Barrier at some distance from the ships. As I crossed the edge of the Barrier I noticed a crack about four inches wide in the snow at the juncture of the slope and the main Barrier. There was movement of the two sides in relation to each other. I felt rather glad

to arrive on the shore side. Immediately I had done so, the main Barrier front started to disintegrate a short distance up the coast. My first thought was to ski down the slope and try to jump the crack which was now widening rapidly as the collapse of the Barrier caused the bay ice to surge seaward. It was instantly apparent that there would be no chance to regain the ships. Men on the ice who had been unloading cargo were hurriedly recovering what they could put back aboard and the ships soon cast off and steamed out towards the open sea to escape the ice.

By now the whole Barrier front for miles was shedding millions of tons of ice in great masses which fell into the water. From hundreds of feet below, more ice came up from the deeply submerged foot of the Barrier. The ice on which I stood watching this drama of cataclysmic force remained solid under my skis. There was no reason to worry about the ships having sailed away without a warning. We had our sleeping bags, food, and fuel on the Barrier. The ships returned this time after several hours when the danger was past. The bay ice and the Barrier changed front so often that the ships had to move many times.

One day the *Bear* sailed away on a mission to relocate the magnetic pole and we didn't see her again until we joined her at Horseshoe Bay in Palmer Land, 1400 miles east of Little America. Our main objective lay in that direction so we took our leave of the West Base party and commenced the trip which was to take us across the Belingshausen Sea. Wind, snowstorms, rocks, and ice of all descriptions met us there. We were forced to pick our way carefully through the rocks and broken ice of Marguerite Bay after approaching Charcot Island closer than any ship had been before. We saw the mountain chain of Alexander Land for a few moments when the clouds and fog broke away but we were allowed no opportunity to make an attempt to land there. Thus we saw the most interesting object of our hopes slip out of reach.

We went on into the fjords of Palmer Land. Instead of flat or undulating surfaces broken only by the weird shapes of pressure ice as at Little America, we found here great mountains with magnificent glaciers of blue ice pouring down through the passes. Approach to the interior is difficult due to the steepness of the glaciers. Wind is a feature of Palmer Land. The British expedition to this country reported a six-day reading on their recording

anemometer of a minimum velocity of fifty miles per hour and a maximum of 110 miles per hour with the average near the top figure. The *North Star* dragged her anchor several times as she sought shelter in the lee of islands. All attempts to locate a suitable site for our East Base failed until a possibility was sighted from the air. After hurried unloading, the work of putting together our main building was begun. It was located on a spot of bare rock at the edge of a great glacier which made a good landing field for air operations. The approach of the winter night made it necessary to get as much work done as possible. Already the days were short and the transition was very noticeable from day to day. Only seven weeks more remained before the sun would slip below the horizon for the winter night.

On the way South an event had occurred which caused such a commotion that little else was thought of for some time. While on the high seas an executive order was issued requiring the "surrender, before reaching the first port north of the Antarctic Regions, of all journals, diaries, memoranda, remarks, writings, charts, drawings, sketches, paintings, photographs, films, plates, as well as all specimens of every kind, collected or produced during absence from the United States. Such articles may be returned to the person concerned, or not, at the option of the executive committee."

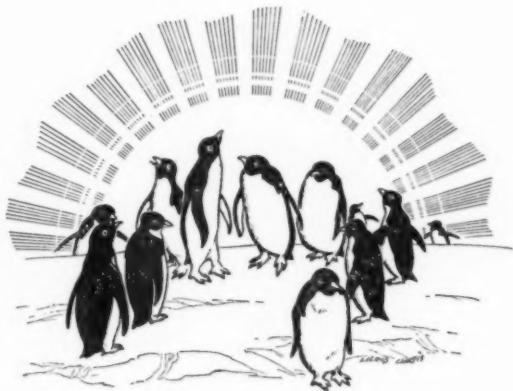
Expedition personnel had no previous knowledge of this order. It was a direct contradiction and violation of agreements under which most of the men of the expedition had entered the Antarctic Service. Since the majority of the men expected to return to other government services, they felt forced to resign themselves to the order. In my own case, however, there was too much at stake to allow myself to be deprived of the work which was specifically reserved to me under the terms of my employment. I had also agreed to execute and donate to the government two paintings of antarctic subjects after my return.

And so for this reason, when Admiral Byrd was returning to the United States and there still appeared to be no official disposition to modify the order, I therefore then decided and was granted permission to return to Washington, D. C., to take up the matter with the executive committee. In Washington I obtained a settlement in which all of my work was released to me free of restrictions. It is a fact, however, that the unfortunate circumstance of

the executive order clouded the attitude of the men for some time.

When the time of our departure came the *Bear* sailed down from Horseshoe Bay into Neny Fjord to take on a supply of fuel oil. The vermilion sun painted the mountains and glaciers of Palmer Land with a strange and beautiful light. Green-blue ice was vivid against the glowing gold of the calm sea. The sun sank below the horizon and the cold night came with bright sharp stars.

Early the next morning the *Bear*, with Admiral Byrd, started the voyage home. The *North Star* left a few hours later. We steamed slowly out of the fjord, waving goodbye to the lonely figures of the men on shore who would remain for almost another year. Our whistle sounded a solemn note three times. From the shore a column of snow shot into the air—another—and another. And the sounds of three dynamite salutes brought us the farewell of the twenty-six men we had left behind.



A Climber's Guide to the High Sierra

PART V

THE WHITNEY REGION*

MOUNTS TYNDALL, WILLIAMSON, BARNARD, RUSSELL, WHITNEY,
MUIR, LE CONTE, LANGLEY

By JOHN D. AND RUTH MENDENHALL,
ARTHUR B. JOHNSON, BRAEME GIGAS, AND
HOWARD KOSTER

THE Whitney Region, that portion of the crest of the Sierra Nevada lying between Shepherd Pass and Army Pass, is a spectacular display of mountain sculpture. Rising west of Lone Pine, in Owens Valley, and following the northeast border of Sequoia National Park, this jagged thirteen-mile escarpment includes seven of the Pacific Coast's fourteen peaks exceeding 14,000 feet in elevation—Mounts Tyndall, Barnard, Williamson, Russell, Muir, Langley, and the culminating summit, 14,495-foot Mount Whitney, highest peak in the United States excluding Alaska. The 10,000-foot scarp of the Mount Whitney fault block forms impressive eastern precipices. Deep, glacier-cut canyons, glacial cirques plucked out among the peaks, moraine deposits in the valleys, sharp ridges, myriad glacial lakes, alpine trails and passes, beautiful timberline campsites—these provide a wilderness of variety for the climber. Indeed, one of the finest climbing areas in the Sierra is concentrated in the six miles between Mount Russell and Mount Langley.

Prior to the latter part of the last century, little or no attention was paid to the Whitney Region, either by those living at the foot of the great range or by the gold-hungry hordes that poured westward. Occasional Indians and miners, in search of fish and game, had no doubt explored at least to timberline. Some may have penetrated farther.

In 1864, members of a California State Geological Survey party, Clarence King and Richard Cotter, viewed the region from the

*Previous parts, a few reprints of which are still available, have appeared as follows:

Part I. The Sawtooth Ridge. *S. C. B.*, 1937, 22:1, pp. 48-57.

Part II. The Ritter Range. *S. C. B.*, 1938, 23:2, pp. 20-32.

Part III. The Palisades. *S. C. B.*, 1939, 24:3, pp. 41-59.

Part IV. Yosemite Valley. *S. C. B.*, 1940, 25:1, pp. 41-63.

north and gave to the highest point the name of their chief, Whitney. Years later, after two unsuccessful attempts, King reached the summit, only to learn that he had been preceded a few weeks by several parties from Owens Valley. A. H. Johnson, C. D. Begole, and John Lucas had, on August 18, 1873, been the first to reach the top. During the years following the summit rocks have known the tread of countless climbers, singly, in groups, in mass ascents. They have been visited by world travelers, by trail builders, by survey parties. The trail to the summit was completed in 1904, and a stone shelter was erected on the peak in 1909. Scientists of various pursuits have camped on the inhospitable granite slabs, studying the heat and quality of the sun's rays, making meteorological and astronomical observations. They have been followed by pedestrians, tourists on horseback, and commercial photographers.

Mount Whitney has naturally received the greatest share of attention, both from climbers and from historians. Little, therefore, is known of the early history of the other 14,000-foot peaks of the region, except for Mount Tyndall. This first came to attention in 1864 when King and Cotter made their famous ascent so dramatically described in King's *Mountaineering in the Sierra Nevada*. Of recent years, dating specifically from the introduction of modern roped climbing on the East Face of Mount Whitney in 1931, the mountaineering approach to the region has been somewhat altered. Difficult pinnacles, peaks, and spectacular routes have come in for their share of the attention of various parties, as the *Guide* will show.

TOPOGRAPHY AND ITS RELATION TO CLIMBING

A mountain mass of fault-block origin usually possesses a precipitous face contrasting with a gentle approach. This characteristic is exhibited to a striking degree in the region surrounding Mount Whitney, for the general contour rises gently from the west, only to break off in huge cliffs toward Owens Valley on the east. Accordingly, the majority of the difficult climbs are found east of the crest. For details of topography refer to the *Mount Whitney* and *Olancho* quadrangles of the United States Geological Survey map, or the Sequoia National Park topographic map.

In general, the most exposed faces are quite firm; eternal vigi-

lance, however, must be exercised to avoid mishap. The general dependability of the cliffs does not extend to the chutes. Some members of an inexperienced or careless party may readily find themselves subjected to a deadly barrage, usually caused by the climbers above. In addition, rockfalls and snow avalanches occur from natural causes, and any leader conducting his party without due regard for this contingency is guilty of negligence or poor judgment. Unsettled weather, accompanied by hail storms, often occurs during the summer, and will, of course, affect climbing conditions. Climbers are also reminded that many of the routes involve a length of time and altitude well in excess of that normally encountered in the Sierra. The Whitney Region contains only insignificant glaciers, and ice equipment is unnecessary in late summer and fall. One must remember that the climbs are classified upon the basis of most favorable conditions, and that the season or adverse weather can raise the class of an ascent by one or two grades.

APPROACHES AND CLIMBING CENTERS

The Whitney Region is most accessible by Inyo National Forest trails from the E., where the grandeur of the range is an inspiring sight, the most lofty summits towering well over 10,000 feet above Owens Valley.

From Independence. From U. S. 395 at the S. end of Independence drive to the Symmes Creek road end (5900). Follow the trail leading over to and up Shepherd Creek (an arduous ascent), where one can camp at timberline (10,400) below Shepherd Pass (12,030). Mounts Williamson and Tyndall can be climbed from the pass.

From Lone Pine. Drive up Lone Pine Creek to Whitney Portal (8350), where a Forest Service campground is maintained. The Mount Whitney horse trail leads up the middle fork to Bighorn Park (10,355; accommodations available during summer), Mirror Lake (10,650; the climber's favorite campground), and continues to the summit of Mount Whitney by way of Whitney Pass (13,650);¹ the John Muir Trail junction is near the pass. Most convenient bases for the East Face and Mountaineer's routes upon Mount Whitney are at East Face Lake (12,850; no wood available), Clyde Meadow (10,000), or timberline camps between the

¹ Do not confuse with pass (B. M. 13,335) formerly crossed by trail.

two. The most popular route to East Face Lake is via Pinnacle Pass from Mirror Lake. To reach Clyde Meadow leave the trail where it crosses the N. fork of Lone Pine Creek (8700). Proceed W. up the N. fork, keeping to the left close under a buttress, and ascend a steep gulch coming in from the S. After several hundred feet of talus, stay well under the slab rock on the left, and climb a Class 2, 50-foot crevice running up a rather steep granite pitch to the right. The crack is located near the spot where the canyon narrows and the slabs reach the creek. Follow a shelf W. along the face of the cliff about one-half mile, where timbered slopes are encountered. Keep in the timber, surmount the crest, and drop down to Clyde Meadow, situated in a grove of foxtail pines nestling in the glacial basin. This is the best campsite on the N. fork, although there is timber and water above.

From Clyde Meadow, avoid a long talus slope by climbing N. to the right of a sheer wall for several hundred feet. Slant to the left across a broad apron of granite and go diagonally to the right side of the canyon. Proceed toward Mount Whitney to a gully a short distance beyond a stream that gushes down from the N. Ascend to the plateau containing East Face Lake, well above timberline NE. of Mount Whitney's base.

From Cottonwood Creek. Drive up the Lone Pine-Carroll Creek road and ascend Cottonwood Creek via trail. Numerous campsites will be found in the vicinity of Cottonwood Lakes. Mount Langley is easily climbed from this trail, which leads over Army Pass.

Other Approaches. Entry into the Region from Kings Canyon National Park is gained via Foresters Pass (John Muir Trail), or over Colby Pass and down the Kern-Kaweah. From the Giant Forest, climb via the High Sierra Trail over Kaweah Gap and across the Big Arroyo. A long pack-in can be made up the Kern River from the south. The accompanying map should be studied for location of higher campsites.

PRINCIPAL PASSES

The Whitney Region is crossed by three passes having stock trails. These are Shepherd and Army passes, bounding the region to the N. and S., and Whitney Pass, S. of Mount Muir. Other passes are undeveloped, suitable primarily for knapsack parties.

Tyndall Col (13,150). Class 1. Connects the Bowl with Wright Creek.

Whitney-Russell Pass (13,350). Class 1. The notch provides convenient passage between the N. fork of Lone Pine Creek and Whitney Creek. — *E. to W.* Ascend talus W. of East Face Lake, and climb into notch at corner of wall N. of lake.

—— *W. to E.* From bowl at head of Whitney Creek, climb talus, keeping to right to higher (S.) of two notches through head-wall. The lower notch is too steep on the E. side to be feasible.

Arc Pass (13,050). Class 1. This saddle offers a direct route between Consultation Lake, in the middle fork of Lone Pine Creek, and upper Rock Creek. — *N. to S.* Pass the lake on the E. and climb the talus to the S., keeping high up to the left until it is convenient to follow a ledge back to the right into the pass.

—— *S. to N.* From Sky Blue Lake, ascend talus to NE. into a small cirque; thence directly N. into the pass.

Tuttle Pass (12,750). Class 1. This route involves a long trek along the S. Fork of Tuttle Creek, and is recommended only for sturdy knapsackers.

Crabtree Pass (12,850). Class 1. Convenient link between Crabtree Creek and Rock Creek recess.

Pinnacle Pass (12,200). Class 2. — *S. to N.* Pass N. of Mirror Lake and ascend broad, sloping canyon to NW., keeping near base of cliffs to N. After three-quarters of a mile, ledges on right lead up to pass, 1600 feet above Mirror Lake, just to right of prominent pinnacle visible from Mirror Lake. The first part of the descent, eastward, is moderately difficult rock work; below, descend diagonally W. The lower portion and the basin floor are composed of very rough talus. Proceed diagonally toward Mount Whitney to right side of canyon, and go to a gully a short distance beyond the point where a stream comes down the right slope. Ascend to the East Face Lake plateau.

—— *N. to S.* From the N. fork canyon, ascend talus at the first place where it rises appreciably against the S. wall. At the high point of the talus (300 feet above the stream), follow ledges right and upward into pass.

PRINCIPAL PEAKS (N. TO S.)

Mount Tyndall (14,025). *Route 1 — N. Face.* Class 3.² First ascent July 6, 1864, by Clarence King and Richard Cotter. From a point between Shepherd Pass and the saddle leading to the Bowl, ascend the rib in the middle of the face (or the gully to its right) over granite slabs, to the arête. Proceed E. among the gendarmes to the summit.

—— *Route 2 — NW. Ridge.* Class 2. Leaving the Shepherd Pass trail, climb ridge at the junction of N. and NW. faces. Ascend to arête of Route 1 and follow to the summit. — *Variations.* Climb any gully to the S. of the NW. ridge, traverse the S. face of the N. peak 100 feet below its crest, and ascend to the arête, thence to the summit.

—— *Route 3 — SW. Slopes.* Class 2. First descent July 6, 1864, by Clarence King and Richard Cotter. Mount talus above highest lake on Wright Creek.

—— *Route 4 — E. Face.* Class 4. First ascent, August 13, 1935, by William F. Loomis and Marjory Farquhar, who climbed the first prominent open chute on the E. face of the N. ridge. Principal difficulty was entering the chute.

—— *Route 5 — SE. Ridge.* Class 4. First ascent, August 11, 1939, by Ted Waller and Fritz Lippmann. The ascent of the SE. wall of the third large chute SE. of Tyndall involves 500 feet of Class 4 climbing. The remainder of the route follows the nivated SW. slope of the ridge to the top.

W. Peak of Tyndall (13,533). Class 2. First ascent unrecorded. The oddly sculptured NW. face offers varied scrambles of similar difficulty, all on excellent granite.

² Considerable thought has been given to the classification of standards of difficulty, in order that each climber may have an opportunity to judge for himself what routes he should undertake. No one should attempt a climb unless properly equipped and prepared by experience to meet the safety requirements recommended. A knowledge of general mountaineering sufficient to care for one's self in the region is presumed.

1. *Easy.* Any serviceable footgear will do. Examples: Clouds Rest, Alta Peak, Conness, Dana, Whitney.
2. *Moderate.* Proper footgear essential — nails or rubber. Examples: Banner, Clark, Lyell, Tyndall, Abbot.
3. *Difficult.* Ropes should be available. Examples: North Fallsade, Darwin, Middle Fallsade, Clyde Minaret, Half Dome from Mirror Lake.
4. *Very Difficult.* Ropes essential. Examples: Thunderbolt, Starr King, Three Teeth, North Buttress of Sill, East Face of Whitney.
5. *Severe.* Pitons should be used for safety. Examples: Panorama Cliff, Washington Column, East Buttress of Whitney, El Capitan Chimney, Cathedral Spires.
6. *Very Severe.* Pitons must be placed for direct aid. Example: Cathedral Spire.

Mount Williamson (14,384). Standing apart from the crest, Williamson offers one of the finest views of the eastern escarpment, and is one of the most imposing peaks to be seen from Owens Valley. Although first described as "an inaccessible cluster of granite needles," the summit has now been reached by many routes. The mountain is so complex that it is easy to get off the route and into difficulty. Accordingly it is well to have a rope available, even though the actual climbing problem on most of the routes is moderate in degree.

——— *Route 1 — SE. Ridge from George Creek.* Class 2. First ascent in 1884 by W. L. Hunter and C. Mulholland. A nine-hour, trail-less climb up George Creek brings one to a timberline camp-site (about 11,500) on the N. fork of the creek. From here ascend NNE. to the gradual slope of the SE. ridge, following this to the base of the steeper slope. Here it is possible to cross the E. slope past a small lake and then diagonal upwards, but "much the easier climb is to keep on . . . the backbone of the ridge . . . There is not very much difficulty in either direction." (A. W. Carroll.)

——— *Route 2 — From the Bowl.* Class 3. First ascent by this approach was in July, 1896, by Professor Bolton Coit Brown and Mrs. Lucy Brown. The 2200-foot W. face of Williamson has provided varied routes to the summit, and, to less experienced climbers, many *cul-de-sacs*. Walter A. Starr, Jr., has given the most detailed description of an ascent by this approach, which is essentially as follows: After approaching from Shepherd Pass, follow the top of the low ridge which separates two lakes in the floor of the Bowl. Proceed along ridge, avoiding cliff by passing to the right. After passing the rise in the center of the basin, and beyond the second of two lakes to the right of the ridge, move straight toward summit of Williamson. Directly under the summit there is a high buttress with a pinnacle on top resembling a tombstone leaning to the right. Ascend straight toward the tombstone buttress. The summit disappears, and the tombstone touches the skyline. Ascend the talus toward black marks on rock caused by snow water, and enter the chute directly to the left of the tombstone buttress. This is a double chute separated at its mouth by a lower buttress, which resembles an inverted shield with a rectangular column superimposed on top of it. This latter buttress is exceedingly prominent at the entrance to the double chute. Ascend the

right branch of this double chute, which leads between the tombstone buttress (on the right) and the inverted shield buttress (on the left). A short way up, this chute branches; continue up the left branch. At the top avoid a dangerous small chimney to the right. On the left, ascend an apparently impassable small crack, where handholds are at first insecure, but improve above. This is followed by a large rock with a hole under it. Avoid the ledge to the right, and crawl under the rock. One emerges from under the rock, on top of a high plateau which slopes gently toward the summit.

— *Variations.* Another, perhaps more frequently used, route lies slightly to the S. From the Bowl climb up red talus; or, to avoid excessive loose talus, follow lower portion of SW. ridge and traverse E. across W. slope at highest talus. Ascend southernmost of abundantly scree-filled chutes, keeping to firmer rock along either wall, to notch in SW. ridge, cross into open chute in the upper S. face, and climb ledges in zigzag route marked with ducks to nivated summit slope. Several other variations have been worked out by Norman Clyde and others, sometimes unintentionally. The SW. arête may be followed to the summit, but this is almost Class 4. W. face chutes N. of the Starr route have been used frequently, but involve much more scree and route-finding. The abundant scree in these chutes can simplify the descent—provided one chooses the correct chute.

—— *Route 3 — NE. Ridge.* Class 4. First ascent, 1925, by Homer D. Erwin. This involves an arduous trail-less approach up Williamson Creek. From timberline ascend chute heading on nivated slope on NE. ridge of Williamson and follow ridge over Peak (14,150) and Peak 14,211 (see *E. Peak of Williamson*) to summit. Norman Clyde has followed the NE. ridge from Owens Valley—an 8000-foot, waterless climb from the mouth of the Shepherd Creek gorge.

E. Peak of Williamson (14,211). Class 4. First ascent by Leroy Jeffers. From the summit of Williamson descend NE. along the summit plateau, drop 200 feet to the notch below the plateau by traversing diagonally down the SE. side of the notch, ascend a chute to the crest of the sharp E. peak arête, and drop 100 feet down the opposite side, whence a minimum Class 4 pitch leads to the summit. Variations of this route are possible, the purpose of

all of them being to avoid following the spectacular arête itself. The same applies to the ascent of Peak (14,150) to the NE.

Mount Barnard (14,003). Class 1. First ascent, September 25, 1892, by John and William Hunter and C. Mulholland. This is a high granitic plateau rising from the S. The E. summit (13,747) lies at the crest of the great eastern ramparts, which form an impressive 2200-foot cliff. Mount Barnard can be easily ascended from Wright or Wallace Creeks, via the SW. ridge or the S. slopes. The NW. slope and the N. ridge offer convenient Class 2 routes to the summit, and involve less scree.

Tunnabora Peak (13,593). First ascent, August, 1905, by George R. Davis. Class 2 by the S. slope from the headwaters of Wallace Creek.

Mount Carillon (13,571). Class 2. This peak lies NE. of Mount Russell and one-third mile SE. of Tulainyo Lake. First ascent, 1925, by Norman Clyde.

Mount Russell (14,190). This peak presents a formidable appearance from almost any direction, and was one of the last of the major Sierran peaks to be climbed. The S. wall is deeply fluted, consisting of four buttresses separated by deep couloirs. The outer ribs rise to nearly identical heights, making the summit a twin-horned arête. The N. face is more regular, being cut by a series of horizontal ledges with steep smooth rises. — *Route 1 — E. Arête.* Class 3. First ascent, June 24, 1926, by Norman Clyde. From Tulainyo Lake, ascend 500-foot wall to the S. Continue along ledge on N. side under crest of arête, to summit of E. horn.

—— *Route 2 — N. Arête.* Class 3. First descent, June 24, 1926, by Norman Clyde. From the moraine bench just W. of Tulainyo Lake, follow up the rib that leads into the N. arête. Difficulties of the arête can be turned by keeping to right along ends of N. face ledges.

—— *Route 3 — W. Arête.* Minimum Class 3. First descent, July, 1927, by Norman Clyde.

—— *Route 4 — SW. Face - W. Arête.* Class 4. First descent, July, 1932, by Jules Eichorn, Glen Dawson, Walter Brem, and Hans Leschke. From near the head of Whitney Creek, climb the narrow couloir just left of the buttress that rises sheer to summit



MAP OF THE MT. WHITNEY REGION

- PACK TRAILS
 - KNAPSACK TRAILS
 - CAMP GROUNDS
- SCALE OF MILES
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To Symmes Creek and Independence

To Kings Canyon

To Harrison Pass

Keweenaw and Colby Pass







To Siberian Pass

To Carroll Creek and Lone Pine



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Mo

of W. horn. This couloir heads on the W. arête; proceed thence by route 3 to summit.

—— *Route 5 — S. Face - W. Chute.* Class 4. First ascent, July, 1932, by Jules Eichorn, Glen Dawson, Walter Brem, and Hans Leschke. From the head of Whitney Creek, or Whitney-Russell Pass, follow up the talus into wide chute occupying the center of the S. face. Halfway up, the chute divides. Take the left (W.) branch to near the end, whence ascend the right wall. Attain the arête, which terminates in the summit ridge just E. of the W. horn.

—— *Route 6 — S. Face - E. Chute.* First ascent was made in 1928, by A. E. Gunther. From the branch in the chute of route 5, continue up the right (E.) couloir to the headwall. There are three variations from here: — *Gunther variation.* Class 3. Climb the second chimney right (S.) of headwall to crest of SE. arête, thence on to E. side of arête and up blocks to summit of E. horn; — *Chimney variation.* Class 4. First ascent, July 29, 1932, by James Wright. Climb first chimney on the right (at corner), passing over loose overhang near top, to shelf on E. face of SE. arête, thence by variation 1; — *Face variation.* Class 3. First ascent, August 7, 1931, by Howard Sloan, Frank Noel, William Murray. Climb headwall by ledge leading diagonally up face to left, ending at midpoint of summit arête.

—— *Route 7 — SE. Face - E. Arête.* Class 3. First ascent, June 19, 1927, by Homer D. Erwin and Fred Lueders, Jr. From Clyde Meadow, go up the right (N.) canyon of the N. fork of Lone Pine Creek. Near the head a long talus slope leads E. into a short but prominent chimney, which ends at a high mesa. Cross the plateau westerly to the E. arête of Russell proper. From this point, the way is a variation of route 1.

Peak 13,938. This peak rises just W. of Mount Russell. First ascent, June 27, 1926, by Norman Clyde. Class 2 traverse from Mount Russell.

Mount Hale (13,493). Class 1. First ascent, July 24, 1934, by J. H. and Mildred Czock by the S. slopes.

Peak 12,808. Class 2. First ascent, Sept., 1935, by Chester Versteeg by the W. face.

Mount Young (13,187). This peak is a long, rounded granite

mass with a sheer N. wall broken by avalanche chutes. An excellent view is obtained of the Whitney crest, the Kaweahs, the Great Western Divide, and the Kings-Kern Divide.

S. Slopes. Class 1. First ascent, Sept. 7, 1881, by Frederick Wales, William Wallace, and J. Wright. Ascend from Crabtree Creek into low saddle visible from trail. Proceed to summit over talus.

Mount Whitney (14,495). This peak provides an exceptionally wide range of climbing difficulty. One route is a horseback trail (route 2, Class 1), and entails nothing more than time and stamina. Scrambles, difficult to various degrees, may be made from the W. and N. (routes 1 and 3). Block climbing and couloir scrambling are found on the Mountaineer's Route (route 4). Hardy and thoroughly experienced rock-climbers can attack difficult and exposed routes up the East Face (routes 5 and 6).

——— *Route 1 — W. Face.* Class 2. First ascent, Aug. 18, 1873, by A. H. Johnson, C. P. Begole, and John Lucas. Leave the lower lake in the glacial basin at the W. foot of the mountain. Climb steep talus and pass through any of the numerous chutes. Then proceed directly to the summit.

——— *Route 2 — The Trail.* Class 1. The path leaves the Whitney Pass trail about 300 yards from the pass on the W. side of the crest. The way swings high on the W. slope of the pinnacles, skirting the notches that give impressive views down the great eastern precipices. The final peak is surmounted from the SW.

——— *Route 3 — N. Face.* Class 2. From near the head of Whitney Creek, or Whitney-Russell Pass, climb W. over talus and large blocks. Keeping well under the wall of the N. arête, ascend into any of the shallow chutes leading to a 50-foot wall of broken blocks. Pass through the wall and climb directly to summit. *Note:* Avoid the lower portion of the W. half of the N. face, for it is covered by steep, smooth glacial slabs, involving Class 4 climbing.

——— *Route 4 — Mountaineer's Route,* NE. side. Class 2. First ascent generally credited to John Muir on Oct. 21, 1873. A large couloir separates the N. arête from the great East Buttress. This couloir leads directly from East Face Lake to a notch, the junction of the N. arête with the main massif. From the junction, go left directly up 400 or 500 feet of steep large blocks, to a large cairn on the crest. The summit is 200 yards SE.

——— *Route 5 — East Face Route.* Class 4. First ascent, Aug. 16, 1931, by Robert L. M. Underhill, Glen Dawson, Jules Eichorn, and Norman Clyde. From East Face Lake follow route 6 to notch behind Second Tower. Descend couloir left 40 feet and move right on to foot of a series of scree-covered ledges, the Washboard. Climb the Washboard to a cliff at the upper end, and move left over a low wall. Descend slightly to a wide ledge leading right and into the angle formed by the Great Buttress and the face proper. Climb the corner a few feet and traverse left (S.) around a large rectangular block. This marks the beginning of the Fresh Air Traverse of 100 feet. Work around this rock, cross a gap in the ledge requiring a long step, and work out about 20 feet to the left. At this point climb upward over a rather smooth face to a steep, broken chimney leading gradually back to the right. Ascend the chimney and traverse right at the head. The lead ends almost directly above the start. The climber is now in the angle at the foot of the Grand Staircase, a series of shelves. Climb the Grand Staircase to wall at its head, and move left into a narrow squeeze chimney or crack. A register will be found after the pitch is conquered. After chimney, climb blocks, keeping to right, and finish by route 6.

Note: There are two alternates on this route:—"Tower Traverse." Class 4, very delicate balance. First ascent, Aug. 17, 1934, by Jules Eichorn and Marjory Bridge (Farquhar). From the roping-up place, a notch between the First and Second Towers, traverse left (S.) face of Second Tower by narrow out-sloping ledge leading steeply upward for 25 feet. The shelf then traverses for 25 feet to the bottom of a 15-foot jam crack. This is followed to foot of couloir below second notch.—"Shaky-Leg Crack." Class 4, very strenuous. First ascent, June 9, 1936, by Morgan Harris, James N. Smith, and Neil Ruge. From the junction of the East Buttress and the face proper, climb a few feet above the beginning of the Fresh Air Traverse. An anchor makes a shoulderstand safe on a narrow, partly overhung ledge. Enter the crack, then climb to the beginning of the Grand Staircase, a series of blocks leading toward the summit.

——— *Route 6 — East Buttress.* Class 4, with one Class 5 pitch. First ascent, Sept. 5, 1937, by Robert K. Brinton, Glen

Dawson, Richard Jones, Howard Koster, and Muir Dawson. From East Face Lake, climb the talus and ledge to the left of route 4 for 500 feet, reaching a notch between the First Tower and Second Tower on the face of the East Buttress. Rope here and work right, up the face of the Second Tower. Turn it to the right 15 feet below its summit, thus gaining the second notch. On the first pitch above the notch two pitons are needed for safety. Above this point, the route roughly follows the arête of the East Buttress to a point above the "Peewee," a huge, precariously placed block of granite over halfway up the Buttress. Move left 50 feet through a bowl to a 120-foot vertical crack; this ends in blocks under the left wall of the crest of the Buttress. Ascend directly ahead, and up to summit over blocks, keeping left of the face behind the Buttress.

Keeler Needle (14,128). — *W. Side*. Class 1. First ascent unknown. A short climb over small blocks from the Mount Whitney trail.

Day Needle (14,110 approx.). — *W. Side*. Class 1. First ascent unknown. From Mount Whitney trail, climb easy blocks to summit.

Third Needle (14,100 approx.). — *W. Side*. Class 1. First ascent unknown. Make a short climb over easy blocks from Mount Whitney trail to summit.

—— *Route 2 — E. Face*. Class 4, one Class 5 traverse. First ascent, Sept. 3, 1939, by John D. Mendenhall and Ruth Dyar (Mendenhall). Walk up sloping, glaciated slabs W. of Mirror Lake and S. of Pinnacle Ridge. Ascend easy blocks where Pinnacle Ridge merges with the eastern ramparts of the Third Needle. Class 3 climbing leads upward and to the left into an easy gully. The gully is capped by an abrupt overhang above the halfway point of the climb. Turn the difficulty by means of a short Class 5 traverse to the right. Climb directly to the summit of the ridge by Class 4 rocks, emerging upon the watershed between Third Needle and Day Needle. This route is recommended for those desiring a roped route upon Whitney combined with maximum accessibility.

Pinnacle Ridge (13,050). This serrated ridge separates the middle and north forks of Lone Pine Creek. A Class 4 traverse of the ridge can be made in either direction (John D. Mendenhall and Nelson P. Nies, July 10, 1935). The views are among the

finest in the entire Sierra, for the eastern battlements of Mount Whitney tower above, and Thor Peak dominates the view to the E.

Pinnacle Pass Needle (12,300). NW. of Pinnacle Pass. Maximum Class 4. First ascent, Sept. 7, 1936, by Robert K. Brinton, Glen Dawson, and William Rice. Ascend severe crack on corner facing Whitney. Traverse short arête to summit.

Thor Peak (12,301). This spectacular wall, separating the middle and north forks of Lone Pine Creek, towers to the N. of Bighorn Park. The S. face provides interesting climbs. — *Route 1* — *SW. Side*. Class 1. First ascent by Norman Clyde. Climb ledges N. of Mirror Lake to sloping, sandy plateau SW. of peak. Mount talus and scree to notch S. of peak, and traverse to NE. side, thence to summit.

——— *Route 2* — *S. Face*. Class 5. First ascent, Sept. 4, 1937, by Howard Koster, Arthur B. Johnson, and James N. Smith. Follow Mount Whitney trail above Bighorn Park to top of switchbacks. A broad, brush-covered talus fan leads up to the right. Mount into a crack separating the main peak from Mirror Point to the SW. Ascend the crack for two pitches, and traverse E. along a series of ledges. Climb via a crack to the "Pink Perch," a high reddish ledge. Descend a crack eastward for a hundred feet. Two or three delicate steps place one in a vertical crack a few feet out on the face. Climb two pitches upward in the crack to a shelf behind a gendarme. Turn to the right and make a delicate face climb of 15 feet; easier going completes a 70-foot lead. Climb another pitch on fine, high-angle blocks, then traverse W. high above the Pink Perch. Follow a series of ledges, which lead up into a recess under a 10-foot wall of cornice blocks, and emerge upon the arête a few hundred feet E. of the summit. — *Variation*. Class 4. First descent, Sept. 3, 1940, by Carl Jensen, Howard Koster, Wayland Gilbert, and Elsie Strand. The Pink Perch may also be reached by a small gully from the E. Take trail from Bighorn. At top of switchbacks, leave trail and go up broad gully to where a wide ledge comes in from the right. Follow this ledge about two-thirds its length, then take a steep narrow gully leading diagonally left across the face directly to the Pink Perch.

——— *Route 3* — *S. Chimney*. Class 4. First ascent, Sept. 7, 1936, by William Rice, Robert K. Brinton, and Glen Dawson. Climb to trees on wall N. of Bighorn Park. From point near

highest trees, traverse along ledge to left. Ascend very difficult vertical chimney. Follow ledge back to right. Mount cracks and ledges to a large red-tinged pinnacle standing out from the wall. Between pinnacle and main face, traverse right to gully sloping up to left. An unusually well-defined ledge to left leads to summit.

——— *Route 4 — W. Arête.* Class 2. First descent, Sept. 7, 1936, by Robert K. Brinton, Glen Dawson, and William Rice. Pleasant climb to summit over large granite blocks.

Mirror Point. Southern buttress of Thor Peak, rising immediately N. of Mirror Lake. — *Route 1 — W. Side.* Class 1.

——— *Route 2 — SE. Face.* Maximum Class 4. First ascent, Sept. 6, 1936, by William Rice and Robert K. Brinton. Mount talus slope NW. of Bighorn Park (NE. of Mirror Lake) to apron. Climb up and around apron to left, ascending series of cracks above. The most difficult pitch is an overhanging 20-foot crack. The route works gradually to the left (S.).

Mount Muir (14,025). This peak provides a most impressive view of the entire region. — *Route 1 — W. Face.* Class 2. First ascent unknown. A monument of rocks stands in a shallow chute at the point where one leaves the Mount Whitney trail. The summit, 400 feet above, is plainly visible. Climb over loose talus and blocks, and head for the ridge to the right, at the point where the talus blends into the summit rocks. Traverse to the left and up a short crack to the small summit cap.

——— *Route 2 — E. Buttress — N. Side.* Minimum Class 4. First ascent, July 11, 1935, by Nelson P. Nies and John D. Mendenhall. The route lies up the well-defined buttress that interrupts the sweep of the E. wall. Rapid climbing will be encountered by maintaining a course just to the right of the ridge. When approximately halfway up the rib, swing left into a well fractured chute that climbs back to the right, between two gendarmes. Behind the gendarmes, turn left and ascend large blocks to notch beneath summit. Keep slightly to left and attain summit via steep trough.

——— *Route 3 — E. Buttress — S. Side.* Class 4. First ascent, Sept. 1, 1935, by Arthur B. Johnson and William Rice. From near the start of route 2, climb the face of the buttress for a few pitches. Where the blocks become difficult, traverse down a ledge into a gully under the S. face of the arête. Follow the trough to its

head, where a 70-foot vertical crack appears in the very corner. Ascend the crack and steep blocks to the arête. Work right and up under gendarme to fractured chute, and rejoin route 2.

Peak 12,811. This point rises in cliffs from the SW. shore of Mirror Lake. — *NW. Arête.* Class 2. First ascent, 1933, by Norman Clyde. From flats N. of Consultation Lake there is a prominent Class 2 couloir leading directly to summit.

Mount Hitchcock (13,188). Class 1. This is a long, ascending nivated slope rising from the SW. The NE. side is a steep, impressive cliff. First ascent claimed by Frederick Wales, Sept., 1881. Ascend W. shoulder from Crabtree Meadows and proceed along the plateau to the summit.

Mount McAdie (13,800). The mountain consists of three summits. The N. peak is the highest, with the middle next in elevation.

—— *N. Peak.* Class 3. First ascent, 1922, by Norman Clyde. From the slopes N. of Arc Pass climb nearly to the summit of the middle peak. Descend to the col between the middle and N. summits, traverse to the W. side of the N. peak, and climb upwards.

—— *Middle Peak.* Class 2. First ascent, June, 1928, by Norman Clyde. From slopes N. of Arc Pass, ascend directly to summit.

—— *S. Peak.* Class 2. First ascent, June 12, 1936, by Oliver Kehrlein, Chester Versteeg, and Tyler Van Degrift. From Arc Pass, ascend chimney on SE. face to summit. A Class 3 traverse of a knife-edge enables one to attain the middle summit.

Mount Mallory (13,870). — *Route 1.* Class 2. First ascent, June, 1925, by Norman Clyde. From Mount Irvine, go around the E. shoulder of Mount Mallory to the easy S. slope.

—— *Route 2 — From S. of Arc Pass.* Class 2. From S. of Arc Pass, go up one of several chutes just to the N. of the prominent peak on the edge of the Le Conte plateau. Then follow route 1.

—— *Route 3 — Traverse from the N. Peak.* Class 3. First ascent, July 26, 1931, by Howard Sloan. Traverse from the head of the chute between Irvine and Mallory along the crestline, over the N. peak, and into the notch between the N. and main peaks. Thence climb to the summit. A variation is to climb about halfway up the N. peak, and traverse by a series of easy ledges across

its E. face, onto the arête a hundred feet above the notch, and thence into notch and up N. arête of main peak.

——— *Route 4—W. Side.* Class 3. First ascent, July 18, 1936, by Oliver Kehrlein, Chester Versteeg, and Tyler Van Degrift. Ascend wide couloir from Arc Pass to point NW. of summit. Mount talus blocks to horizontal crack running N.-S. Class 3 rocks lead from upper end of crack to summit.

Mount Irvine (13,790). This ragged granite peak can be climbed by any of the chutes leading from Arc Pass to the high plateau E. of crest, from which the summit is easily accessible.

——— *Route 1.* Class 1. First ascent, June, 1925, by Norman Clyde. From Arc Pass, ascend a deep chute to the ridge to the E. Cross ridge, descending slightly. Go around to SE. side and ascend final easy rocks to summit.

——— *Route 2.* Class 1. The peak can be climbed directly from the middle fork of Lone Pine Creek.

Lone Pine Peak (12,951). This is an imposing summit when seen from Lone Pine; from the W. and NW., the NE. arête presents an interesting profile. Class 1. First ascent, 1925, by Norman Clyde. Climb to point WSW. of peak and ascend talus slope to the high plateau, which presents steep front to the E., and follow plateau to summit.

Mount Newcomb (13,484). Class 1. First ascent, Aug. 22, 1936, by Max Eckenburg and Bob Rumohr. Ascent made from Mount Pickering. Follow down N. ridge, across saddle, skirt pinnacles on the W., thence up SW. ridge to summit.

Mount Chamberlin (13,173). First ascent by J. H. Czock, date unknown. Class 1 by W. arête.

Joe Devel Peak (13,328). Class 2. First ascent, Sept. 20, 1875, by Wheeler Survey party, route unknown. Climbed July 7, 1937, by Owen L. Williams via SE. arête. Records from 1875 to 1908 were found. A Class 2 ascent from the S.

Mount Pickering (13,481). — *SE. Arête.* Class 2. First ascent, July 16, 1936, by Chester Versteeg, Tyler Van Degrift, and Oliver Kehrlein. Climb from Rock Creek Basin past Primrose Lake via SE. arête to plateau, thence to summit.

The Miter (12,784). — *S. Face.* Class 3. First ascent, July 18, 1938, by R. S. Fink. From Rock Creek, ascend a low ridge

just S. of Iridescent Lake and follow this to a saddle on the S. side of the mountain. Climb many ledges, bearing slightly to the W., then go in an easterly direction on the upper slope.

Mount LeConte (13,960). — *Route 1*. Class 2. First ascent, June, 1935, by Norman Clyde. "Followed ridge running SE. from Mount Mallory; thence on ridge around to SW. shoulder of mountain, encountered 20-foot drop, retraced shelf for 100 yards, dropped down to and came up chimney, passing below 20-foot drop, thence to summit." The head of the chute near the summit is the most difficult part of the climb. This route is still used by parties approaching the peak from the N.

—— *Route 2 — From W.* Class 2. Climb talus fan about 200 yards N. of the E. end of Iridescent Lake, the only lake in the recess; thence up a long couloir to a point below crest; then traverse to the NW. and up a difficult chute on the N. face to the summit.

—— *Route 3*. Class 4. First ascent, July 17, 1936, by Oliver Kehrein, Tyler Van Degrift, and Chester Versteeg. Varies from route 2 in that the traverse to the NW. is followed for only 60 feet, at which point climb directly E. toward the summit about 400 feet distant.

—— *Route 4 — E. Arête*. Class 3. First recorded ascent, June 12, 1937, by Gary Leech, Bill Blanchard, and Hubert North. Approach from the N. At old cairn, traverse to the E. instead of to the W. as Clyde did on first ascent. Traverse for 450 or 500 yards to a chimney on the E. face and follow up chimney to point near summit; leave chimney and complete climb on E. arête.

Peak 13,733. One-half mile S. of Mount LeConte, and the most northerly of three summits just S. of LeConte. — *Route 1 — From N.* Class 1. First ascent, 1933, by Howard S. Gates. Climb from Iridescent Lake up chute to saddle in crest N. of peak; thence up easy rocks to summit.

—— *Route 2 — From S.* Class 2. First ascent, July 20, 1938, by R. S. Fink. Ascend W. side of main crest to notch just S. of peak, thence up S. ridge.

Mount Langley (14,042). First ascent, 1871, by Clarence King and Paul Pinson. — *Route 1 — From Army Pass on S.* Class 1.

—— *Route 2 — From Rock Creek on W.* Class 1. Climb

wide couloir one-half mile S. of a point directly W. of the summit, to a level bench. Thence follow an easy arête in a northeasterly direction to summit.

——— *Route 3 — N. Face.* Class 3. First recorded ascent, August, 1937, by Howard S. Gates and Nelson P. Nies. From a bench S. of Tuttle Creek, climb to the base, thence SW. to a chimney blocked at the head. Climb out of chimney to the S. ledge, thence traverse SE., then SW. to a ridge. Follow ridge to summit.

Peak 12,819. Two miles SE. of Mount Langley. First ascent, July 16, 1938, by R. S. Fink, who established routes 1 and 2. — *Route 1.* Class 1. From Diaz Creek climb SW. in a chute to the col on the main ridge W. of the peak, thence E. around the S. slope to summit.

——— *Route 2.* Class 1. From approximately 11,200 in Diaz Creek, ascend N. slope, bearing slightly to E., and thence to summit.

——— *Route 3 — From Cottonwood Lakes.* Class 1. First ascent, 1938, by Bill Roberts. From the lakes, climb S. slopes to summit.

Mount Guyot (12,305). Class 1. Lies W. of the main crest and affords a fine view of both the Whitney Region and the Great Western Divide. First ascent, 1881, by William Wallace.

Cirque Peak (12,863). This summit lies about half a mile S. of Army Pass. First ascent apparently made by a shepherd, who left a cartridge and an initialed piece of wood, but no other record. — *From Army Pass.* Class 1. Second recorded ascent of peak, July 14, 1936, by Oliver Kehrlein, Chester Versteeg, and Tyler Van Degrift. Leave the Army Pass trail near the head of the pass. Continue SSW. along the crest, around the head of the big cirque, from which the peak receives its name. Continue ESE. to top.

Olancho Peak (12,135). This peak, about 16 miles SW. of Cirque, is the southernmost Sierran summit of importance. — *S. Side.* Class 1. First recorded ascent, Nov. 9, 1928, by Norman Clyde and Sierra Club party. Ascend ridge which forms the S. wall of Olancho Creek canyon. Continue up ridge to crest of range and then turn N. toward peak. Cross a 200-foot notch, contour around to the W., and thence to summit.

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Founded 1892

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TRAILS IN THE HIGH SIERRA

In response to letters sent out by the High Sierra Trails Committee to national park superintendents and the Forest Service, requesting reports as to new trail construction and trail maintenance in the High Sierra during the past year, replies were received as follows:

Yosemite National Park, Lawrence C. Merriam, Superintendent.

"During 1940 a trail was constructed, 11.9 miles in length, from Triple Peak Fork of the Merced River over the Clark Range through Snow Pass via Ottoway Lakes to a junction with the Merced Pass Trail approximately 1 mile north of Merced Pass. This trail is passable but some additional construction work is necessary next season in order to reduce some short lengths of heavy grade in the vicinity of the pass and to improve the trail from lower Ottoway Lake to the junction with the Merced Pass Trail. The eastern extremity of the trail at Triple Peak Fork joins a trail constructed in 1939 five miles in length from Merced Peak Fork to a junction with the old Isberg Pass Trail.

"Also under construction in 1940 was the replacement of the Nevada Fall bridge. Adjacent to and on the upstream side of the old truss bridge a steel plate girder bridge with log trim was built. This bridge is passable, but some additional work is required in 1941 for completion of log rails, approaches and clean-up."

The new trail referred to is one of the trail projects recommended in the 1939 report to the Park Service by the Trails Committee of the Sierra Club.

Kings Canyon National Park, H. C. Bryant, Consultant.

"Now that the season is about over, I wish to report to you the trail improvement which has been made possible during the past summer. We have kept at work all summer five trail crews of seven men each.

"One trail crew has improved the Paradise Valley, Bubbs Creek, Sphinx Creek, and Roaring River trails. Another crew worked the Granite Pass and Middle Fork trails. A third crew, entering from Florence Lake, worked the Evolution Valley trail over Muir Pass to Little Pete Meadow. Another crew, entering from Bishop Pass, handled the Dusy Lakes trail and the Palisade Creek trail as far as Pinchot Pass. The fifth crew, entering via Kearsarge Pass, has worked the John Muir Trail from Foresters Pass to Pinchot Pass.

"We especially want to call to your attention the great improvement to the trail past the Devils Punch Bowl between Cartridge Creek and Palisade Creek; and to the fact that before the summer is over, good trail bridges will be installed both at Cartridge Creek and Palisade Creek crossings. The Cartridge Creek bridge has been completed, and the crew is at work on the one crossing Palisade Creek. You called

attention to those needs, and we are glad that we can report accomplishments.

"The only trails on which no work was done, are the following: Hell-for-Sure Pass Trail; Tehipite Trail; Cartridge Creek Trail; and two miles of the Bubbs Creek Trail between Vidette and Junction Meadows. We hope to get some work done on these trails another year. Most of the trail crews now at work in the high country will have to give up their work about the first or the middle of October, lest they get snowed in.

"You will be interested to know that the proposed trail up Roaring River has been surveyed. The first two miles will be heavy construction and very expensive, but the remainder of the four miles to Scaffold Meadow will be very easy construction. It is possible that a beginning can be made on this trail by CCC this coming summer.

"The first three miles of the Copper Creek trail was realigned, and the CCC will have this practically complete by the end of the summer.

"An engineering crew begins this week on a survey of the proposed road to Copper Creek."

Sequoia National Park, E. T. Scoyen, Superintendent.

"Acknowledging your letter of November 14, would advise that we have had no new trail construction this past year, nor is any contemplated in the near future. All trails received regular maintenance, and we plan each season to have the crews go into the back country early in June."

Mono National Forest, D. M. Traugh, Forest Supervisor.

"Approximately three miles of new trail were constructed this year from Agnew Lake toward Agnew Pass in the Rush Creek recreation area. It is now possible to go from Silver Lake to Agnew Pass via Agnew Lake on foot or horseback over our new trail which eliminates the former trail via Gem Lake. This is the only trail construction work done on the Forest this year."

Sequoia National Forest, J. E. Elliott, Forest Supervisor.

"Due to the curtailment of the Road and Trail funds we have been unable to accomplish any betterment or new construction on our High Sierra trails, and apart from opening up existing trails, adequate maintenance was only possible on main routes of travel."

Sierra National Forest, M. A. Benedict, Forest Supervisor.

"No construction work was done on trails in the high country, though some betterment was accomplished on the Piute trail. Lack of funds prevented anything but maintenance."

Inyo National Forest, Roy Boothe, Forest Supervisor.

"During the past year the Inyo had no trail construction program in the Sierra region under way due to no allotments being received there-

for. Our main work in connection with trails in the High Sierra country consisted entirely of maintenance of trails with very little if any of this work being under the category of 'betterment.'

WALTER A. STARR, *Chairman,*
High Sierra Trails Committee.

* *

SOME REPORTS OF SIERRA BIGHORN SEEN IN 1940

BY ARTHUR H. BLAKE, *Chairman, Committee on Sierra Bighorn*

The data below have been briefed from reports made either to Hall McAllister, Chairman of the Academy of Sciences Committee on Wildlife, or to the Sierra Club's Committee on the Sierra Bighorn. It is arranged geographically in the hope that Club members and other observers will keep the localities in mind, so that if in the vicinity they will be particularly watchful. It will be appreciated if further observations are reported to the Club committee.

Big Pine Creek (Inyo National Forest).—On June 17, 1940, Joe Steward, of Big Pine, an experienced game observer, saw a large ram coming from the slope to the northwest of Glacier Lodge. It passed his cabin and continued down almost to Big Pine Creek. Apparently alarmed it returned up slope to a rock near his cabin where it poised awhile, then retraced its route to the northwest. This is the first bighorn reported seen near the Palisades for many years. (Norman Clyde.)

Middle Palisade Vicinity (Inyo National Forest).—Norman Clyde reports that on August 1 he saw footprints, evidently those of a bighorn, on a small snowfield extending northward from the residual glacier that fills a pocket under the notch between Middle Palisade and the Thumb at an elevation of about 12,000 feet. Similar tracks were observed, by other members of the Knapsack Trip, in ledges running along cliffs to the west, and also on the south base of the shoulder which runs to the Middle Palisade.

Woods Creek (Kings Canyon National Park).—A member of the Sierra Club reports having seen on July 3, at an elevation of 7500 feet, the carcass of what from his description was believed to have been a bighorn ewe.

Dragon Lake Basin (Kings Canyon National Park).—A passing knapsacker told Dorothy Markwad, Sierra Club member, that he had found the carcass of a bighorn in the vicinity of Dragon Lake about July 10. The animal had apparently died a natural death. (Norman Clyde.)

Mount Williamson (Inyo National Forest).—Norman Clyde, on July 18, saw "signs" and bedding place of the bighorn on the south shoulder of the mountain, near 12,500 feet. Several summit climbers reported seeing footprints in the granite sand at around 14,000 feet on the eastern nivated slope.

Mount Barnard (Inyo National Forest).—J. H. Czock observed a band of eleven bighorn crossing from Peak 13,968 to Mount Barnard, and observed them for an hour with the aid of field glasses, and writes, "... we could see them digging up the flowers as they worked their way along. Right then and

there I suffered my most serious mountain disappointment . . . I had left my large camera and telephoto lens in camp, so I missed the chance of a lifetime."

Mount Tyndall (Sequoia National Park).—Several climbers en route to Mount Tyndall reported to Samuel Griggs at Independence that they had seen twelve to fourteen bighorns high up on the mountain, about July 12. On July 19, Norman Clyde saw "signs" and tracks on the south slope of the mountain from 12,000 feet up to the top.

Black Mountain (Kings Canyon National Park).—A band of fourteen bighorns, including several rams and ewes, was reported by Russell Keene, Blister Rust Foreman of the Sierra National Forest, at an elevation of about 12,500 feet. His very interesting report follows:

"Early in October, 1940, I made a one-man pack trip through parts of the Kings Canyon and Sequoia national parks, on October 8 making the ascent of Black Mountain, a lofty peak standing due east of Rae Lake on the crest of the Sierra. While I was scaling the peak, my attention was attracted by the sound of falling rocks some three hundred yards from me across a ravine, and I saw to my great surprise a band of fourteen Sierra bighorn. They were at an elevation of approximately 12,500 feet, and as near as I could judge, there were at least three rams, while three or four of the others appeared to be quite small as if they might have been spring lambs. For years I had been looking forward to the day when fortune might favor me with just one glimpse of these magnificent creatures in action in their native haunts among the crags and sky pastures of the great snow peaks; and then on this wind-whipped morning, on the bleak and cliff-scarred slopes of Black Mountain, when I was least expecting to see them, there they were before my astonished eyes, bounding from rock to rock, from ledge to ledge, and up steep chimneys where it seemed utterly impossible for living creatures to travel.

"It was interesting to observe that in traversing comparatively gentle slopes, the animals ran in single file, but on cliffs and precipitous slopes they would invariably spread out, each animal seeking its own path to avoid falling rocks dislodged by its companions. Twice they were compelled to cross precipitous chutes tilted at the angle of something like sixty degrees, covered with a loose decomposed granite. The bighorns, fully realizing the lack of footing here, would leap down off the walls and race across the chutes at great speed, being carried across by sheer momentum amid a shower of flying talus. Only one member of the band crossed at a time, while the others stood by to enjoy the performance, as it were, and the ones that crossed over waited until all the others had joined them before proceeding up the rocks. Thus I was fortunate in that for forty-five minutes I was able to observe and enjoy the antics of these rare and beautiful denizens of the alpine world. No more thrilling forty-five minutes have I ever spent in the mountains. I regret my inability to have procured pictures of the animals. Upon first sighting them I became so excited I entirely forgot the existence of the two cameras I was carrying."

Mountaineering Notes

MOUNTAINEERING ON THE 1940 HIGH TRIP

BY L. BRUCE MEYER

Mountaineering expeditions ascend and descend but the challenge of the Sierra's rock bound summits goes on forever. What the text of this challenge may be is unknown, but in any event it was enough to kindle a fire of ambition that resulted in some 360 man-ascents. Of course, the so-called "well managed" High Trip had much to do with the result, as no rain fell to dampen the high spirits. It did, however, rain the first day, but this was arranged to wash off the precipitates of civilization.

Practice sessions, similar to those on previous outings, were held to improve the technique of climbers. During these sessions, under the leadership of Dave Brower and Dick Leonard, and on actual climbs, new techniques were invented, notably: Norman Clyde's "tension relay," necessitated by mass ascents; and Art Argiewicz's "expansion knee" or "human piton." During the entire outing two rules were particularly emphasized: that there be no solo climbs, and that all climbers must sign up for their climbs. Much attention was given to the unclimbed peaks in the vicinity and many climbers returned with first ascents, while others came back with news of previous climbs, mostly by Norman Clyde. If Norman Clyde could remember all the summits he had crossed at one time or another it would, no doubt, eliminate many a circle from the maps of the Mountain Records Committee. Out of some fifty-five different climbs, there were about ten first recorded ascents. The following resumé shows who did what and when:

North Dome.—A first recorded ascent, climbed June 30 by Neil Ruge and Florence Rata via Granite Creek and Copper Canyon.

Kid Peak.—Climbed July 2 from Paradise Valley by a party of 18 led by Norman Clyde and Dave Brower. This was the first mass ascent of the outing and provided a 4500-foot climb as a starter. There was no record of previous ascent.

Peak 12,329.—Climbed July 4 as a supposed first ascent by Jim Harkins, Bob Jacobs, and Don Heyneman. They reported a record of a previous climb.

Window Peak.—An apparent first ascent of the W. summit was made July 4 by Bruce Meyer and Howard Wurlitzer en route from Paradise Valley to Woods Creek. From there a fine view of the window was obtained, and its dimensions were estimated to be three by five feet. Previous estimates of the size of the window by Norman Clyde, Ike Livermore, and Dave Brower placed the window approximately twenty by thirty feet. This difference in opinion aroused an argument that wasn't settled until the next day when Art Argiewicz and Bob Jacobs made a first ascent of the peak itself. After roping down to the window and measuring it in a crude fashion with strings, they returned to camp with the actual dimensions. The verdict was four by five feet, and Dave Brower lost a candy bar.

Castle Dome.—On July 5, en route to Window Peak, Art Argiewicz and Bob Jacobs made a traverse of the two most prominent castle domes. Both were supposedly unclimbed, but upon reaching the summit of the highest dome they discovered a bench mark, eliminating the possibility of a first ascent. However, a first recorded ascent was made on the other dome.

Peak 11,503.—This peak, two miles NW. of Mount Clarence King, was climbed July 5 for a first ascent by Kenneth Hartley and Don Roberts.

King Spur.—July 6, while the main party traveled from Woods Creek to Sixty Lake Basin, a party of Jim Harkins, Bob Jacobs, Art Argiewicz, and Bruce Meyer traversed King Spur from the N. making first ascents on two of the major peaks. Ropes were used on the summit monoliths. By means of field glasses, a cairn, probably Norman Clyde's, was believed to be seen on *Peak 12,158*.

Peak 12,409.—Climbed July 7 by Fred Toby and Dick Goldsmith after working with snow crew on Glen Pass. On July 9, Anna Shinn, Les Toby, and Fred Toby made the ascent on their way over the pass.

Fin Dome.—Climbed July 6 by Paul Estes. On July 7, after traversing the ridge from Peak 11,904, Dave Brower (leader), Art Argiewicz, Fred Toby, Russell Varian, Peter Joralemon, Jim Harkins, and Bruce Meyer made the ascent up a new Class 4 route and placed a box-type register. Another party, consisting of Les Toby and Anna Shinn, reached the summit via the regular route. Jack Pionteki and Dick Leonard both led mass ascents on July 8 and 9 respectively. Fred and Dan Toby also climbed the Fin on July 9. All together forty man-ascents were accomplished.

Peak 11,904.—Paul Estes made a second ascent July 6. A Forest Service shovel handle was found on top. July 7, on a traverse of the Fin Dome ridges, Dave Brower (leader), Jim Harkins, Gordon Gaddis, Russell Varian, Paul Ferrier, Art Argiewicz, Don Roberts, Dick Goldsmith, and Bruce Meyer made the third ascent.

Mount Gardiner and Peak 12,565.—A traverse was made of these two peaks on July 7 by Paul Estes and Jack Pionteki. This was a first ascent of Peak 12,565. On July 9, Norman Clyde led a party consisting of Bob Jacobs, Jim Harkins, Don Heyneman, Art Argiewicz, and Paul Ferrier which set out to pioneer a new route up Gardiner.

Mount Cotter.—Climbed July 8 by Neil Ruge (leader), Don Heyneman, Quentin Griffiths, Ed Gray, Henry Leicester, Burke Corbet, Florence Rata, Jack Lund, and Kemp Bennett.

Mount Cotter (North Peak).—This peak was climbed for the first time on July 8 by a party consisting of Dave Brower (leader), Dorothy Markwad, Jim Harkins, Art Argiewicz, Kenneth Hartley and Bruce Meyer. A traverse up the N. ridge brought the party to an exposed twenty-foot wall which had to be descended. Once this was accomplished the summit was easily reached, although ropes were needed. This same party, minus Kenneth Hartley, also climbed Clarence King on the same day.

Mount Clarence King.—Two parties made this ascent on July 8. The first, a party of 12, was led by Norman Clyde with Bob Jacobs assisting;

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the second party, led by Dave Brower, made the ascent after climbing North Cotter.

Diamond Peak.—Climbed July 9 by Weldon Heald and Lloyd Ingraham.

Peak 12,553.—Climbed July 9 by Neil Ruge and Florence Rata.

Mounts Rixford and Gould.—On July 9, Dave Brower (leader), Jim Harkins, Art Argiewicz, and Bruce Meyer traversed around Glen Pass and Peak 12,409 and up the ridge to Rixford. On July 2, Weldon Heald and Lloyd Ingraham climbed both Rixford and Gould.

East Vidette.—While the first two-weekers were making their way home, a party of 12 led by Norman Clyde made this ascent.

Deerhorn Mountain.—A party consisting of Norman Clyde, Dave Brower (leaders), Art Argiewicz, Bob Jacobs, Howard Wurlitzer, Paul Ferrier, Jim Harkins, Don Heyneman, John Hart, and Bruce Meyer climbed on July 13 the two peaks of Deerhorn and then completed a traverse of the arête running N. from Deerhorn. No record was found of previous ascent of the peaks on the arête. During this climb Bob Jacobs met with an accident. On applying outward pressure to a supposedly firm hold, he was forced back off a ledge when the hold came out, and fell twelve feet before catching himself. Luckily he suffered only shaken nerves and minor cuts, but thereupon received the nickname "Avalanche" Jacobs. The moral learned from this little incident was *pull down on holds and not out.*

East Spur 12,722.—Climbed July 14 by Jim Harkins and Pat Goldsworthy. No record or cairn was found.

West Spur.—Climbed July 14 by Dick Goldsmith and Anna Shinn, who stopped fifty feet from the summit.

Mount Bago.—Lloyd Ingraham and Weldon Heald made this ascent July 15. Neil Ruge and Florence Rata, as first two-weekers, also made the ascent on their way out, adding a first ascent of *Peak 10,667.*

Mounts Bradley and Keith.—Paul Estes, climbing solo, made the ascent of the first two of these peaks on July 16. An exposed summit monolith prevented his climbing the last fifteen feet of *Peak 13,370.*

University Peak.—Four parties, anxious for a higher education, climbed this peak between July 15 and 16. The first was a party of fourteen led by Norman Clyde. Dick Goldsmith led a second party of three and Earl Dillon led a third party of twelve. On the morning of the 16th, Jerry Sconberg and Pat Goldsworthy left at 2:00 A. M. in order to see the sunrise from the summit as well as the climb by moonlight.

Mount Stanford.—On July 16 fifteen stalwarts made the long grind to Stanford under the leadership of Norman Clyde, and also placed a new box-type register on its summit.

Center Basin Crags.—With an ideal 10:00 A. M. start, Dave Brower and Bruce Meyer traversed from N. to S. the three most prominent crags along this ridge. No records of previous ascents were found, and this traverse proved to be most interesting (Class 4), ending with a long rope down.

Junction Peak and Diamond Mesa.—Norman Clyde and Dave Brower on July 17 led a party of fourteen to Junction Peak, some of the group con-

tinuing on a traverse of these two peaks. A small brass tube register was placed on Diamond Mesa. This party was en route to a knapsack camp at the foot of the Mesa for a three-night stand.

Mounts Tyndall, Williamson, Barnard, and Peak 14,211.—As a climax to the mountaineering on the outing, a party consisting of Norman Clyde (leader), Dorothy Markwad, Anna Shinn, Don Heyneman, Jim Harkins, Bob Jacobs, Howard Wurlitzer, Howard Gleason, Paul Ferrier, John Hart, Tyler Van Degrift, Lloyd Ingraham, Cy Jobson, Dan Kauffman, Art Argiewicz, Dick Goldsmith, Bob Wickersham, Earl Dillon, and Bruce Meyer set out to climb three 14,000-foot peaks, Williamson, Tyndall, and Barnard, in the space of two days. A knapsack camp was set up in a clump of trees at the foot of Diamond Mesa.

On the 18th the complete party set out to climb Williamson via the SW. ridge. After climbing the main peak, a party consisting of Dorothy Markwad, Jim Harkins, Bob Jacobs, Don Heyneman, and Bruce Meyer climbed the East Peak of Williamson (Peak 14,211) and returned to the base camp behind the main party.

On the 19th the group, minus Goldsmith, Wickersham, Dillon, and Van Degrift, made the ascent of Tyndall. Van Degrift climbed Barnard instead. In addition to Tyndall, a more ambitious party dropped down to the lake S. of Tyndall and continued the ascent of Barnard. The remainder of the party returned to the main camp at Milestone Creek. During this climb much promising evidence of mountain sheep was encountered, although none were seen. There were many fresh signs, such as beds, tracks, and partly grazed alpine sunflower, *Hulsea algida*. This completed the three ascents, and the next day the main party was rejoined.

Thunder Mountain.—Climbed July 20 by Paul Estes with George Blundell, Wilford Finch, and Merle Loros, who were visitors. A new box-type register was placed on the summit.

Table Mountain.—The same day another box-type register was placed by a party led by Dave Brower from the Milestone Creek Camp, consisting of Mildred Robinson, Blanche Stallings, Charlotte Mauk, Anson Burleigh, and Jim Harkins.

Milestone Mountain.—On July 21, instead of following the trail to Kern-Kaweah, two parties went cross-country, climbing Milestone en route. The first party was led by Leland Curtis and consisted of Charles Townsend, Estelle Caen, Dorothy Thompson, Louise Hewlett, Marion Roach, Ruth McEvoy, Joe Wampler, Trude Gunther, Bill Wright, Newton Bell, and Betty Rowell. The second party led by Dave Brower, placed a new box-type register on the summit. This party consisted of Josephine Allen, Howard Gleason, Kemp Bennett, Howard Wurlitzer, Paul Ferrier, Dick Goldsmith, Jim Harkins, Anna Shinn, Bob Jacobs, Paul Estes, and Bruce Meyer. Both parties reached the top at the same time and enjoyed a social hour on the well protected summit.

Peak 12,332.—Climbed July 22 for a first ascent by Weldon Heald and Lloyd Ingraham en route to Kaweah Basin. No cairn was found.

Triple Divide Peak.—On July 23, from Kern-Kaweah camp, Norman Clyde led a party up this peak consisting of Pierre Walker, Bob Jacobs, Richard Ogg, Alfred Weiler, Nancy MacCabe, Henry Leicester, Angus and Patsy Taylor.

Kern Point.—Weldon Heald and Lloyd Ingraham made a fourth ascent of this peak on July 23, noting that the first recorded ascent was made on August 12, 1925.

Peak 12,660 and Peak 12,740.—These two peaks N. of Triple Divide were climbed July 24 by Lloyd Ingraham and Paul Ferrier from Kern-Kaweah camp en route to Cloud Canyon.

Palmer Mountain.—In order to obtain a last bird's-eye view of the Kings Canyon, Joe Wampler, Dick Goldsmith, and Lloyd Ingraham, made this ascent en route from Cloud Canyon to Sphinx Creek.

The Sphinx.—The last, but one of the most important ascents of the outing, was made on July 26 by Art Argiewicz and Bob Jacobs after the 16-mile trip from Cloud Canyon to Sphinx Creek:

"The Sphinx is the farthest N. and slightly lower of the two points comprising the mass. In order to reach the top it was necessary to climb over the higher point, down the N. face about 300 feet, and up almost to the notch between the two. Here on the NW. face several routes were attempted and abandoned. We then climbed to the notch. The summit pitch confronted us—a 200-foot face, triangular, almost devoid of holds, which terminated in the 150-foot summit ridge. A delicate traverse was made across the face to the S. wall, where we discovered a small ledge around the corner. From here we made our way up an open chimney to the top of the ridge and the summit." The ascent was classified as Class 3 with three Class 4 pitches.

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BURRO TRIP NOTES AND CLIMBS

BY MILTON HILDEBRAND

Everything went wrong the first day. It took us most of the morning to locate Sweet Pea on the far side of the San Joaquin. When the packs were put on, Lightning struck, and bucked the contents of his pack out over half an acre of manzanita. At the swinging bridge above Florence Lake Motestine suddenly remembered that he didn't want to go on the trip. The record shows, however, that burro-trippers do not spend all their time worrying about donkeys.

The first mountain to fall was Darwin, which was climbed by a party of twelve on July 5. A steep Class 2 route was followed up the W. face. Four climbed the final pinnacle. The following day I climbed Peak 12,741, two miles SW. of Darwin, finding a cairn on the summit. Fully recovered from the Darwin climb, eight went up "Point Spencer" on the 7th. Then, three days later, Ralph Arthur Chase took a small party up Pilot Knob, while two others climbed Peak 12,363, two miles NW. of Hutchinson Meadow. Ben Cummings, Jerry Rosenblatt, Bob Wall, Elizabeth Lamson, Peg Taylor and I, deciding to keep a date with Mount Humphreys, shouldered sleeping

bags and food for a two-day assault on the mountain. The first night was spent at 11,500 feet, under the last white bark pine. When the sunset glow grew cold on the peaks, two roaring fires were kindled to keep the crisp night back; and as the fires waxed and waned Peg, who had no sleeping bag, and Elizabeth, who attracts smoke, took turns sleeping.

We crawled out at the crack of dawn, had an order of cantaloupe and eggs around, and the fellows set out for the peak. The climb was well rewarded by a clear view of the white-capped Sierra from Lyell to Whitney. On returning to the base of the mountain the climbers found the girls had taken a seven-hour, all-over sun bath. They had to admit it—they were sunburned "just in the small-of-the-back." We noticed, however, that they couldn't sit down.

The second burro trip, led by Stewart Kimball, can boast of a good deal of off-trail mountaineering, but of few summits. Parties attempted Mount Darwin and Mount McGee, but were unsuccessful because of poor luck on routes. They had better luck, however, than a helpful packer Stewart tells about:

"Leaving Evolution Basin the pack animals were especially frolicsome, and by the time we had reached Colby Meadow one pack had to be readjusted. Dorothy and Alex Maslow were putting the finishing touches on their diamond hitch when up stepped a polite packer, then camping in that meadow, who had viewed our burro train with mingled disdain and contempt. 'May I show you how a *real* diamond hitch should be made?' offered the horse-wrangler. Forthwith he retied the hitch in his corrected style. 'And now to tighten it at the end, you do this,' he added with a flourish. Planting one high-heeled boot on the afterparts of Mr. Burro, he gave a big heave. Immediately, and without warning, our burro leaped high into the air and started for home with more speed than ever before. Round and round he went, with the packer dragging in the dust. The burro-trippers' amusement was not well hidden."

On August 1 seventeen third-trippers set out to climb The Hermit. Of these only six reached the summit. The next day Viola Memmler, Marguerite Hildebrand, Sophie Cassie, Bill Sattler, and I climbed the Black Giant from Evolution Lake via the long but easy W. slope. When the flames flared high at campfire that night two figures could be seen at the lake front, bending over a large pot. After a time Clive Ginner and Lore Cappel came into campfire circle with the product of their skill—"soda lemonade." Now, I have sipped my *dunkeles* in the Hoffbrenhaus, and I have imbibed vodka on the Volga, but never had I tasted the likes of the Ginner brew, synthesized on Evolution's shore. Lore admitted it would have to be perfected. Eventually, it was; but on this occasion the potion—and the recipe—were poured into the lake.

To complete the third trip mountaineering, Lore Cappel, John Sproul, Margaret Sorenson, and I made Darwin by the W. face on the 3rd, while on the 8th a party of fourteen climbed Pilot Knob by the E. ridge.

I had no business on the fourth trip, since Dick Felter was leading it;

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but I stayed with the party long enough to climb Mount McGee. Dick Felter and Paul Estes made up the party. We climbed from Davis Lake to the notch between the main and SW. summits. The talus at the bottom of this chute is bad, but the remainder of the climb is Class 2. The descent to McGee lakes, via the largest ice chute on the NE. face, was more difficult because of loose rock.

On August 16 Dick led a party of eight up Mount Darwin by the "burro trip route." On the 21st, he, Paul Estes, and Chuck Lawrence climbed Humphreys. Again Pilot Knob was climbed before the dash back to civilization.

Although we hadn't spent our time building fires under burros, we did learn much about them, and they about us, as Dick observed at the start of his trip:

"Camp at Jackass Meadow assumed an appearance consistent with its name as animals were herded in and formal introductions made. Quite unsuspected by the little party, this meeting of burros and burro-trippers was to begin several beautiful friendships which would net the lucky burros extra rations of lemon drops and cheese. On the other hand, glances of mutual suspicion, exchanged by other burros and trippers, were ominous. Actually, however, our string of burros was unusually meritorious. Streams were forded and swaying bridges crossed with near abandon. And during those first days no burros were detected to be maliciously slipping packs they knew to be loose, nor did they attempt to train those who forgot the fundamental that one end bites—and the other kicks."

Trip four had played tag on part of its itinerary with the High Horse Trip. Since both outings were in the mountains at the same time, they'll have to share credit for raising the extraordinary record of rainless summer days. Dick Felter seemed to show the best sense of control. Just thirty minutes after his trip was officially ended a thunderstorm struck in a downpour of rain and hail. Thus ended the last major Club outing, the official start of the first of which had, strangely enough, been preceded, just thirty minutes, by a prolonged deluge.

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CLIMBS FROM THE 1940 BASE CAMP

BY ART ARGIEWICZ

East Lake, site of the first base camp trip, is ideally located for climbing. Situated at the foot of South Guard, it is ringed with imposing peaks—West Spur and Deerhorn to the east, to the south the peaks of the Kings-Kern Divide dominated by Mount Stanford and the massive crags of Ericson, on the west by the massive wall of Mount Brewer. The many lake basins in this region afforded interesting side trips to the less ambitious who were not affected by the love of summits common to all climbers, and were yet not content to sit idly. It is worthy of note that Oliver Kehrein, not to be outdone by the High Trip management, did not allow one

drop of rainfall in the entire two weeks spent at East Lake, to the delight of climber and meadower alike.

Peak 12,222 (NW. of West Spur).—This was climbed July 30 from the lake basin at the foot of Deerhorn Mountain by William Morrison (leader), Lee Morrison, Endicott Hanson, Dick Kauffman, and Bob Leggett, Jr. (The peak was climbed once before—by Norman Clyde in 1927.—Ed.)

Peak 11,844 (NE. North Guard).—On July 30 a party led by Art Argiewicz, including Edith Mains, Norman Roth, Walter Marx, Wayne Bryant, Bob Sconborn, Ted Simon, and Fred Foulon made what appeared to be the first ascent.

Peak 11,593 (W. of East Lake).—This cleaver-shaped peak was climbed July 31 by Oliver Kehrlein (leader), Davie Davidson, Tom Noble, S. Reynolds, Virginia Whitacre, Edith Sperry, and Grace Winters. They ascended via the N. face.

Mount Brewer.—On July 31 the first of several ascents of this impressive mountain made by the base campers was led by Lee Stopple, and included a group of eleven.

On August 4, starting out on what was intended to be the exploration of an alleged glacier under the E. face of Brewer, Oliver Kehrlein (leader), Endicott Hanson, Louis West, Bob Leggett, Amby Mulay, A. and G. Frugé couldn't resist the urge to continue the climb to the summit when a spectacular snow and ice route up a couloir just N. of the summit confronted them. The top was gained at 5 P.M., and the descent was completed that night at eleven.

On August 6 Oliver Kehrlein led up the SE. arête no less than thirty-eight climbers, many of whom had never climbed a peak before. A party led by Art Argiewicz, including Alan MacRae and Barbara Saunders, made a leisurely ascent of Oliver's new couloir route, meeting the larger party on top in time for a late lunch.

Mount Stanford.—As highest peak on the Kings-Kern Divide, this offers a superb view of the Sierra crest. In order to enjoy this view Art Argiewicz (leader), Paul Estes, Ben Mason, and Dick Kauffman climbed the W. face and N. arête. From the summit they traversed "Gregory's Monument" to Harrison Pass—the usual route of ascent. On August 8 Bill Morrison and Alan MacRae repeated the ascent by the N. arête.

Mount Jordan.—On August 3, climbing by way of Reflection Lake and a basin to the SE., Art Argiewicz (leader), Ginny Whitacre, Walter Marx, Barbara Saunders, William Morrison, Norman Roth, and Lee Morrison made a fourth ascent and a first traverse of this peak. After a case of mistaken summits, the party made the delicate five-foot leap necessary to attain the summit. Descent was made by the W. face.

Mount Geneva.—On the same day Bob Sconborn led a party of six to the summit, having first climbed Lucy's foot-pass and the NE. arête.

Peak 11,597 (W. of East Lake).—A first ascent of the N. face was made August 3 by Alan MacRae (leader), Wayne Bryant, Ray Moose, and Bert Eloesser, Jr. A larger party, led by Oliver Kehrlein, followed.

Mount Ericsson.—An ascent of this impressive peak was made August 4 by Alan MacRae and Dick Kauffman, who climbed by way of Harrison Pass.

Junction Peak.—As a climax to a knapsack trip, this ascent was made August 4 by Ralph Arthur Chase (leader), Harry Wessenberg, Mildred Pinniger, and Edith Sperry.

Deerhorn Mountain.—This spectacular mountain was climbed August 5 by way of the basin W. of West Spur by Bill Morrison (leader), Dick Kauffman, and Norman Roth.

Peaks 13,110 and 13,021.—Located just N. of Thunder Mountain, these peaks form the highest points on a ridge extending from South Guard. On August 8 Oliver Kehrlein, leading a party composed of Ben Mason, Endicott Hanson, Dick Kauffman, Art Argiewicz, and Al Whitney climbed steadily up the rugged E. face of the ridge. At the top the party traversed from N. to S., climbing several minor summits, discovering Norman Clyde's cairn on Peak 13,021, finally making a first recorded ascent of Peak 13,110.

Peak 12,311 (SE. of South Guard).—This interesting peak yielded a first ascent on August 8 to Peter Friedrichsen (leader), Davie Davidson, Louis West, and Ginny Whitacre.

West Spur.—Climbed August 8 from W. by Williamson (leader), Wayne Bryant, Ann Housen, and William Pinniger, who found no record of previous ascent.

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YOSEMITE CLIMBING NOTES

BY RICHARD M. LEONARD

The outstanding feature of Yosemite rock-climbing this year was the excellent coöperation and contribution of the National Park Service through Superintendent Lawrence C. Merriam. At the time of the annual Memorial Day trip new policies were put into effect recognizing the permanent interest and maturity of the sport. The well known Sierra Club expert on rock-climbing, Jules M. Eichorn, was one of the first new rangers to be appointed by the National Park Service for advice, supervision, and rescue work in mountaineering problems arising within Yosemite. The appointment of Jack Riegelhuth, of the Sierra Club Rock-climbing Section, strengthened the Yosemite staff in this respect, although his duties were primarily park protection. H. B. Blanks, one of the first of the Sierra Club rock-climbers and a capable skier, already on the staff of Superintendent Eivind Scoyen, of Sequoia National Park, was given the responsibility for mountaineering in that park. Among the duties of these mountaineering rangers is assisting in the handling of the new Park Service climbing policy. Formulated through discussions between Sierra Club leaders and Park Service officials, these very simple regulations will be a benefit both to climbers and the ranger staff. All climbers are urged to register, giving pertinent information in regard to the intended climb, so that upon any delay in their return the rangers will know where to search. Moreover, such registration enables the

rangers to check in a helpful manner the experience and equipment of the members of the party for the climb they are planning to attempt. All good climbers will enjoy talking with a ranger who really knows mountaineering and they need not have any feeling of apprehension, since the regulations do not provide for prohibition of any attempt. A ranger whose mountaineering ability commands respect can usually tactfully persuade the poorly qualified party to attempt something equally interesting but more suitable to its ability. In order that a search may not needlessly be made, it is, of course, essential to notify the rangers immediately upon return from the climb. As added inducement, a certificate of accomplishment is available to each climber at the time he reports his return. This certifies, over the signature of a ranger, that the climber was either observed by the ranger staff to have completed the climb, or that the climber states that he did so. These certificates will not be issued if the climbers fail to report their return.

In addition to assisting in the formulation of a definite mountaineering policy for the National Park Service with competent rangers to administer such a policy, the Sierra Club has helped climbing in Yosemite by the publication last year of the Yosemite Valley section of *A Climber's Guide to the High Sierra*.¹ As a result of these different influences more climbing of a difficult nature was accomplished in Yosemite in 1940 than ever before. Climbing started in March and continued in every month through November. Several new climbs were accomplished. They are as follows:

Sentinel Rock—W. Face (7000). Class 4 with one Class 6 pitch. First ascent, May 28, 1940, by David R. Brower and Morgan Harris. No other ascents. Five hours. Ten pitons. From just below the junction of the NE. corner of the Sentinel massif and the open gully rising from the Four-Mile Trail, a series of scree-covered ledges (Class 4) leads diagonally up and westward under the sheer N. face to a fir-covered terrace midway up the NW. "arête." Descend an exposed route 70 feet to the broad sloping ledge crossing the W. face of the massif. Follow the ledge to within 50 yards of its terminus in a watercourse polished by winter avalanches, and ascend 150 feet. There is at this point one continuous 120-foot lead (Class 6) requiring 10 pitons, up a shallow chimney to the next broad ledge. From there a traverse back to the watercourse connects with an open gully leading to the notch behind the summit, thence through brush to the top.

Castle Cliffs (6750). Class 5. First ascent, May 29, 1940, by David R. Brower and Morgan Harris. No other ascents. Six hours. Eleven pitons. Follow the route towards the Arrowhead as far as the gully immediately below and W. of it, traverse westward and gradually upward through brush and Class 2 scrambling to the last arête before the Yosemite Point Couloir, roping at that point. The route continues up on or very near this arête, and is quite intricate, the rock varying from very firm to exceedingly crumbly granite—permitting wind-erosion caves in one area. During the ensuing lead of some 300 feet eleven pitons were used for safety; one was in fact used for direct aid by the leader to increase the factor of safety, but

¹S. C. B., 1940, 25:1, pp. 41-63. Reprints are available at cost.

the second man was able to climb the pitch without it. The route finally opens into a Class 2 scramble, ending, after a 500-foot climb through manzanita and scrub oak, at the head of the Couloir.

Washington Column—Direct (5912). Class 5. Sixteen pitons. Twelve hours from Lunch Ledge. First ascent, August 17, 1940, by DeWitt Allen, John Dyer, Robin Hansen. At the top of Fat Man Chimney traverse E. and down to an alcove, around the corner, and up a friction pitch to the base of a small scree slope. This leads to a spectacular chimney, prominent from the Valley floor, which is 200 feet high, and divided in two sections. First is 20 feet deep, about four feet wide, narrowing to one foot near the back. From deep within the chimney proceed directly up and through various chockstones to the second half, which is relatively open and steepens considerably near the top. From here traverse W. and then ascend a small chimney to a large platform. Traverse W., around the corner, then ascend another chimney into a cave and out its window. Above the cave is an arch through which a unique view of the Valley is obtained. From this point proceed up the scree to the base of the final cliff, halfway up which there is a right-angle chimney marked with an overhanging cave. From the base work onto a sloping alcove by using a large embedded flake. After gaining a second ledge, cross an open chimney and traverse upward and E. past a tiny tree to a tree-covered platform. Climb up a short cleft, then halfway up the right-angle chimney. At this point traverse W. across a smooth face to an arête which leads directly to the summit slope of the Column.

A second ascent of this route was made February 22 and 23, 1941, by Jack Arnold, Robin Hansen, Ted Knoll, and Fritz Lippmann. Even with the route known, the second ascent, complicated by rain and by snowfall, took as long as the first, and involved a bivouac, sheltered with zeltsack and sleeping bags, on a ledge 300 feet below the summit. Adverse weather increased the difficulty to Class 6 near the top. This marks the first occasion that a Yosemite climb of such difficulty has been made under winter conditions. Temperatures were mild; the route was such that rapid retreat could have been made had the severity of weather conditions merited it.

Leaning Chimney (5675). Class 5. First ascent, October 13, 1940, by Kenneth D. Adam, David R. Brower, Morgan Harris, Richard M. Leonard, Carl Rosberg. No other ascents. Three hours. Two pitons. This is a spectacular chimney, blocked by overhanging chockstones, due S. of the Leaning Tower. From Bridalveil Fall parking area ascend 1000 feet of easy Class 1 route with amazing views close under the truly tremendous 1200-foot overhang, to the head of the amphitheatre W. of the Tower. By a 30-foot Class 4 narrow chimney leading upward to the right (W.), or probably by easier talus around a buttress farther to the right, tree-covered Class 2 ledges are reached leading easily back, eastward and upward, 500 feet or more into the Leaning Chimney and to the first big chockstone. This can be passed by a 30-foot lead on the high-angle N. wall, through careful use of a slender, partially detached spire, with excellent holds above it. On the first

ascent two pitons were used for protection in case of possible collapse of the spire. Easy climbing continues to the next series of chockstones marking the summit of the chimney. Here the route is on the S. wall. The lead at this point can be safeguarded by using one of the chockstones as a carabiner—threading the rope through a hidden passage behind it—at the same time using a separate direct, anchored belay. A small overhang with exceptionally good holds is the crux of the pitch. At the top of this lead of about 30 feet a tunnel through additional chockstones brings one to the notch at the head of the chimney. Easy bushwhacking leads to Bridalveil Creek, only 750 feet below.

Kat Pinnacle (3950). Class 6. Six pitons. Four hours. First ascent, November 10, 1940, by DeWitt Allen, Torcom Bedayan, Robin Hansen. This pinnacle is on the N. wall of the Merced canyon, a mile below the Coulterville Road-All Year Highway junction, about midway between the two roads. From the cliff N. of the pinnacle a rope is thrown over the tree just below the platform supporting the overhanging summit block. Anchored from below, the rope is crossed with carabiner protection—this being the only practicable means of passing the 90-foot shaft, overhanging and massive on all sides, that heads on the platform. From a three-man stand below a large crack on the W. of the summit block, several pitons are placed for direct aid, and the rest of the route is obvious.

William Kat, elderly but active Yosemite resident, called the pinnacle to the attention of rock-climbers in May, at that time revealing his hope someday to fly a kite over the summit, and thus eventually secure a climbing rope to it. The ascent is admittedly a stunt by any route.

Higher Cathedral Spire. On the tenth ascent, April 21, 1940, Jack Arnold, Raffi Bedayan, David R. Brower, Robin Hansen, Fred Kelley, Fritz Lippmann, and Tom Rixon on three ropes worked out two new variations of the route at the summit block above Third Base. This eliminated the use of artificial aid on this portion of the climb. One route traversed from Third Base around the S. side of the summit block to its SE. corner, thence up a face to the top. The other route traverses from Third Base around the N. and E. sides of the summit block to its SE. corner and thence up a chimney to the top. On the eleventh ascent, on June 23, 1940, John Dyer, Wm. A. Horsfall, and Edward Koskinen eliminated artificial aid at the rope traverse chimney, just above Second Base. These are splendid accomplishments and leave only 10 feet of artificial aid at the overhang above First Base out of nearly 500 feet of very fine climbing.

Clouds Rest—N. Face. The first known serious attempt on the direct 4000-foot N. face was stopped by difficulty June 16 and 17, 1940. Robin Hansen, Fritz Lippmann, and Tom Rixon, after a bivouac in Tenaya Canyon, failed about 1500 feet up after Class 2, 4, 5 and 6 climbing.

Lost Arrow. The nightmare of all those who have inspected it closely, the Lost Arrow still inspires attempts to attain at least the notch between the final 200-foot spire and the Valley rim. Recently two more attempts have been made to reach this notch from the base of the Arrow. On September 1,

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Jack Arnold, Robin Hansen, and Fritz Lippmann followed the route of previous ascent to the First Error, where they were sufficiently encouraged to try again two weeks later. On September 14 Raffi Bedayan, Hansen, Lippmann, and Fred Kelley again reached the First Error. From its spacious platform a 75-foot ascent, involving use of seven pitons for direct aid, brought the leader to a 20-foot shrub, from which an easy traverse continued, apparently, 25 feet back into the chimney behind the Arrow itself. There is considerable division of opinion as to just what a climber would do next once he had attained the chimney. But it is known that this spectacular recess presents a terrifying sight from the Yosemite Falls Trail, and that once it is entered there is still an 800-foot climb, averaging nearly 90 degrees, to the Valley rim.

Watkins Gully. Viewed from Half Dome, or, preferably, from the floor of Tenaya Canyon, where it is pleasingly enhanced by foreshortening, the gully W. of Mount Watkins looks like an easy shortcut to the summit of the mountain. Anticipating a leisurely day of scrambling, Kenneth Adam, David R. Brower, and Morgan Harris set out May 30 to christen the shortcut. From the Tenaya Canyon "trail" the lower part of the gully, cut through talus, was easily ascended, the rope not being needed until native rock was reached and a tiny waterfall passed by a Class 4 route E. of the gully. An ascent over gully slabs to a belay shelf on the E. wall, a steep pitch climbed with the aid of a maple, and a Class 4 pitch on the W. wall brought the party into a recess beneath a large overhang—the second important waterfall—which could hardly have been ascended in the dry season. After unsuccessfully trying three routes of escape (from Class 4 to Class 6), they returned to the first by-pass—an unlikely ledge traversing the E. wall from the mouth of the waterfall recess. A welter of pitons was driven in for moral support—12 in all—before Brower, then Adam, rounded an exposed corner and faced a 25-foot chimney to a tree-covered shelf above, where the party belatedly assembled to proceed diagonally upward another 200 feet. One more piton protected the traverse on an overhanging and overhung shelf, bringing the party, after an uncertain jump, back into the gully once more, this time above the troublesome waterfall.

It was now dusk. Had the pitch just accomplished been the crux of the climb, it would have been possible to speed up the remainder of the gully to the Snow Creek Trail. There remained, however, two chockstone groups, with protecting waterfall moats, that a hurried examination indicated were more difficult than anything yet encountered. Retreat was decided upon and the first rope-down, cooled by the waterfall, accomplished by dark. A powerful, head-type flashlight aided the remaining 900 feet of roping down.

Split Pinnacle. Second ascent, March 31, 1940, Jack Arnold, Robin Hansen, Fritz Lippmann, Tom Rixon.—Third ascent, May 30, 1940, Wm. A. Horsfall, John Mendenhall, Ruth Mendenhall, Don M. Woods.—Fourth ascent, November 11, 1940, Jean Alpern, Torcom Bedayan, Robin Hansen, Richard Houston, Fred Kelley, Henry Knoll. *Lower Brother—W. Face.* Second ascent, August 31, 1940, Torcom Bedayan, Robin Hansen. *Lower*

Brother-SW. Arête. Second ascent, July 27, 1940, Robin Hansen, Earl Jessen. *Arrowhead.* Fifth ascent, June 26, 1940, Robin Hansen, Tom Rixon. *Royal Arches.* Third ascent, July 14, 1940, Jack Arnold, Robert Blain, Robin Hansen, Fritz Lippmann. *Washington Column-Piton Traverse.* Eighteenth ascent, June 28, 1940, Robin Hansen, Tom Rixon, Harry Reynolds (N. P. S. ranger). *Glacier Point-E. Face.* Second ascent, May 31, 1940, DeWitt Allen, Jack Arnold, Fred Kelley.—Third ascent, June 20, 1940, Robin Hansen, Fritz Lippmann, Tom Rixon, George Templeton. *Church Tower.* Third ascent, June 18, 1940, Robin Hansen, Fritz Lippmann, Tom Rixon, George Templeton.—Fourth ascent, October 13, 1940, Jack Arnold, Torcom Bedayan, Henry Knoll, Tom Rixon. *Lower Cathedral Spire.* Tenth ascent, June 23, 1940, Jack Arnold, Robin Hansen, Fred Kelley, Fritz Lippmann, Tom Rixon.—Eleventh ascent, July 14, 1940, John Dyer, Edward Koskinen. *Higher Cathedral Spire.* Twelfth ascent, November 9, 1940, DeWitt Allen, Torcom Bedayan, Robin Hansen. *Cathedral Chimney.* Third ascent, October 13, 1940, Robin Hansen, Theodore Knoll, Fritz Lippmann. *Pulpit Rock.* Third ascent, May 5, 1940, Jack Arnold, Robin Hansen, Fritz Lippmann.—Fourth ascent, June 22, 1940, Robin Hansen, Fritz Lippmann, Tom Rixon, George Templeton.—Fifth ascent, September 15, 1940, Raffi Bedayan, Robin Hansen, Fred Kelley, Fritz Lippmann, Harry Reynolds (N. P. S. ranger).

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FIFTH ATTEMPT UPON MOUNT CONFEDERATION

BY JOHN D. MENDENHALL

East of the confluence of the Athabaska and the Chaba, in the unmapped southern portion of Jasper National Park, rise the rose-colored towers of virgin Mount Confederation. As seen from the Banff-Jasper Highway nine miles to the N., the 10,500-foot summit stands in sombre contrast with the distant glaciers of the majestic Columbia group. It was an inviting goal as Ruth and I left Sunwapta Falls August 23, 1940. The pack in to Gong Lake, usual base camp site for attempts, was strenuous. Indistinct blazes, a tiring swamp, and innumerable fallen logs, made the going difficult. It appeared best to attempt the peak by the NW. arête, scene of the fine try in 1939 by Christine L. Reid and Frances McGuire. Accordingly, we established a camp above timberline at the mouth of the cirque. The next morning, we started under threatening clouds—one does not wait for perfect days in the Canadian Rockies. The most promising gully was being swept by rockfalls. However, it appeared safe to speed across the gully and gain a series of easy ledges above the wildly ricocheting rocks. A persistent rain began. Visibility dropped to a hundred feet, and the rumbling rocks to the right could no longer be seen. Balance climbing became untrustworthy on the wet lichen, and we resorted to the grip climbing of yesteryear. At noon we reached the arête and paused for lunch, while the rain changed to wet, heavy flakes. We were determined to continue if either visibility improved or the snow abated, for two hours might bring us to some peak top. But

we would not know if it was the highest; and in our soaked condition a bivouac in the persistent snowfall would be serious. Unseen rockfalls roared in the mists, warning us of the time that must be allowed for waiting at the edge of the rock-swept couloir. It eventually seemed wise to retreat, and we roped down in thick flakes, visibility now limited to sixty feet. The night was spent at the high camp, that we might resume the attack the next day. However, dawn brought more rain, and the higher peaks were white with fresh snow. Inasmuch as the weather had apparently broken, we moved down to base camp and on out toward the Sunwapta, feeling that Mount Confederation should fall to any competent party that has reasonably good weather.

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FIRST ASCENT OF NORTH PEAK OF TEMPLE CRAG

BY RUTH D. MENDENHALL

On July 7, 1940, seeking a good rock-climb which could be made in a morning from Third Lake, John D. and Ruth Mendenhall made a first ascent of the N. peak of Temple Crag, the sharp, spectacular summit visible directly over the lake. The NW. chutes were continually rumbling with rockfalls, so we decided to attempt the steep-looking NE. couloir. We left camp at Third Lake about 6:00 A. M., and ascended scree and snow slopes into the first deep chimney SE. of the NE. buttress. After we were well up in the Class 4 chimney the angle diminished and pleasant Class 3 climbing took us up to the notch, from which we were able to look over into the chutes on the NW. side. A traverse N. along the ridge, winding in and out of, and over rocky teeth, brought us to the final Class 4 pitch up the pinnacle of the N. peak. We returned by the ridge until it was easy to rope down to the route of our ascent, and were back at Third Lake about 3:00 P. M. A very pleasant climb to the summit of Temple Crag should be possible by this NE. face route.

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ACROSS THE YOSEMITE SIERRA ON SKIS

BY CHET ERRETT

Ever since listening to Otto Steiner tell of his wonderful trip from Lone Pine to Sequoia, I have had a desire to cross the Sierra. But it was not until March, 1940, that Bob Schenck, Howard Koster, and I began preparations for what we hoped would be the first Sierra ski crossing through Yosemite National Park—a trip of about sixty miles. Then, on the afternoon of March 13, we shouldered our packs at Silver Lake, made the short, steep climb to Gem Lake control station, where we spent the night. Our next camp was at 11,000 feet near Donohue Pass. On the morning of the 15th, with the wind blowing hard and the sky becoming cloudy, we climbed over the hard-packed powder covering Lyell Glacier to the notch between Lyell and Maclure. Here, a 400-foot sheer wall dropped to the Lyell Fork of the Merced, and required us to contour N. of Lyell to the notch between

it and Rodgers Peak. Dropping packs, we attempted to climb Lyell, but had to give up the attempt soon. Ice, snow, and wind made climbing too slow, and we were having to rely on handholds, it being impossible to get good footing with ski boots. Returning to our packs we descended 200 feet in a small, steep couloir, kicking steps into the crust, then put on skis and dropped to the Lyell Fork, camping that night at about 11,000 feet, opposite Foerster Peak. On the 16th we skied down to Washburn and Merced lakes, camping beyond the bad avalanche slope under Bunnell Point, and on the next day continued past Nevada Fall to Mono Meadows, the Glacier Point Road, and Badger Pass. We had realized our ambition, and, more, had combined the sport of skiing with the winter beauty of high peaks.

MOUNTAINEERING MISCELLANY

SKIS TO THE FOURTEEN-THOUSANDERS

A winter ascent of 14,242-foot White Mountain Peak was made March 2, 1940, by Chet Errett, Howard Koster, Don McGeein, and Clyde V. Nelson, Jr. Leaving the road E. of Jeffry's ranch, they walked up to 11,000 feet, finding no snow below 10,000. After a night in a snow camp the party skied to within 1000 feet of the summit, which was reached at 2:30 that afternoon. The descent to camp that evening offered a fair amount of good skiing, and on the 3rd the party "skied down on the N. side of the ridge below our camp for a short distance, in dry snow up to our knees with the skis grinding on the rocks beneath . . ." by which it would appear that White Mountain Peak in March is not a particularly good ski mountain, despite its name and height.

Attempting a one-day ski ascent of Split Mountain, 14,051 feet, Bob Brinton, Clyde Nelson, Jr., and Bill Rice left the highway, below Red Mountain Lake, at 4:45 A.M., March 17, 1940. They reached an elevation of 12,500 feet before being turned back by deep powder snow on a steep slope, to enjoy a several thousand-foot descent on ideal snow. It is the party's opinion that the Red Mountain Lake route is not safe during a normal winter because of the steep slope just below the N. shoulder of the peak.

On the day of the Split Mountain attempt, David R. Brower and Frederic R. Kelley were making the first winter ascent of 14,254-foot North Palisade, the ascent having been preceded by two snow camps—one near First Lake, the second at 12,500 feet on Palisade Glacier. The U-Notch route (Class 4), which had spelled failure to two previous winter attempts, yielded on the third try. Raffi Bedayan and Fritz Lippmann reached the high camp, but a mild form of aeroneurosis reached it and them at the same time.

UNCLIMBED (?) PEAKS

Chester Versteeg has reported ascents of three Sierra peaks which, according to Sierra Club records, were supposedly unclimbed, but only one of which offered no evidence of previous ascent. An apparent first ascent was made

of Peak 12,004, near Lone Pine Peak, when on August 31, 1940, Versteeg found a Class 2 route via the S. wall at the head of the S. fork of Lone Pine Creek. On July 25, with Betty Versteeg, he ascended Peak 12,850, N. of Temple Crag, to find records of previous ascents by Morgan Leonard, and by Edwin Bennett and James Moser, dates unknown. Peak 12,702, at the head of Lamarck Creek, was climbed with Virgil Sisson on August 7, and yielded a cairn, but no record.

SIERRA RECORDS

Although there will always be those who decry the use of mountains as mere proving grounds of endurance, others find records of interest, even if not a source of the urge to better them. Three unusual records have come to our attention. Perhaps readers will know of better times for the routes described.

The Muir Trail.—Ian T. Allison, of Oakland, reports having started in mid-August from Tuolumne Meadows, thence traveling to the summit of Mount Whitney in six and one-half days, camping on successive nights at Agnew Meadow, the lake S. of Silver Pass, Piute Pass trail junction, Grouse Meadow, Woods Creek, and Wright Creek. Thus the 184 miles were covered at an average clip of just under thirty miles per day.

Mount Lyell.—According to a carefully written account in the August 6 issue of the *Riverside Daily Press*, Richard Olson of that city believed he might cut about two hours from the time required to climb "Lyell in a Day"¹ from Yosemite Valley. His time table speaks quite adequately for itself: 12:30 A. M., Happy Isles; 1:20 A. M., Nevada Fall; 3:30 A. M., Merced Lake; 6:10 A. M., Bernice Lake; 10:00 A. M., base of Lyell Glacier; 11:20 A. M., summit of Lyell, with a half-hour for lunch; 8:20 P. M., Happy Isles again. Thus Olson trimmed four hours and three minutes from the time required for the ascent by Stuart McKelvey in 1937, a saving due largely to the choice of a route about ten miles shorter, with the vertical climb reduced by 2500 feet. Moreover, McKelvey made the somewhat tiring mistake of climbing the wrong peak first, that being the first major ascent of his career.

White Mountain Peak.—Jack Sturgeon, Oakland, a club member who climbed more than 100 peaks in the High Sierra during the summer of 1939, left Oakland one Saturday noon last July, and was back again the next night. He climbed White Mountain Peak in the interim. Persons attempting to better this record must reckon not only with the difficulties of an arduous ascent of a 14,242-foot peak, but with the California Highway Patrol.—D. R. B.

¹S. C. B., 1938, 23:2, page 110.

Book Reviews

A NEW GUIDE Many and varied have been the books compiled to aid the tourist on his travels through Yosemite and its High Sierra.

But until now the proper formula for a Yosemite guide-book has been a bit nebulous. One book would be so large that carrying it was prohibitive, and finding an answer to a question of route was too complex; another book would be so small that typography suffered and important facts were omitted; a third might be more of a novel than a guide-book. Photographs were uniformly poor; maps required the divinations of a cartographer.

But all of this is changed, now. Virginia and Ansel Adams have compiled a Yosemite guide-book that functions. The book opens with instructions for its use, a brief quotation from which indicates the wide scope and concise simplicity of the book: "Road and trail diagrams are stylized to convey only distances, altitudes, and relative positions. Related, descriptive texts are augmented by photographs . . . Recurring reference symbols indicate pages where given subjects (such as trees, geology, history) are academically presented . . . No references occur in the text to birds, animals, reptiles and amphibians, but detailed information on these will be found among the reference lists. References are only casual, an attempt having been made to pick either the most colorful, the commonest, or the most interesting items . . . The bibliography (compiled by Francis Farquhar) furnishes a list of books which will lend to the reader's appreciation of Yosemite's history, significance and potentialities . . ."

Although the foreword makes no mention of it, it is important to know that the authors did not wait until the book was completed before outlining the instructions for its use. They had them clearly in mind from the start. As a result the work holds together as a unit. Its 130 pages are chock full of information that can be readily found—and carried, for the over-all size is just six-by-eight inches. The type face is bold enough to prevent the reader from becoming snowblind when endeavoring to read it out of doors. The maps are something new, and, at first, a bit startling. But one will soon like the readability, and the clarity resulting from use of three colors. The illustrations—well, what need any reviewer say about Ansel Adams's photographs? Perhaps they symbolize the entire book. Ansel was never—at least in the many years since his work first enhanced the *Bulletin*—one to becloud the details of his photographs with attempts to make photographs look like something else. His print details are pure, whether of the texture of driven snow or of a weather-beaten old fence. And except for three pages, where use of an antiquated type face almost makes the book look like a collector's item instead of a modern guide, the *Illustrated Guide to Yosemite Valley* is just as pure. In this case, purity is more than a virtue. It should spare the Yosemite ranger-naturalists many a question, and should go far toward encouraging tourists to explore the Yosemite that lies beyond the pavement.

D. R. B.

¹ *Illustrated Guide to Yosemite Valley*. By Virginia and Ansel Adams. H. S. Crocker Co., Inc., San Francisco. 1940. 127 pages, many illustrations and maps. Price, \$1.00.

BIOGRAPHY OF A MOUNTAINEER² Edward Whymper was brought up in the business, or profession, of illustrating books by engravings on wood. His skill and artistry in this field would have alone assured his fame, as a glance at the illustrations in his great books, *Scrambles Amongst the Alps* and *Travels Amongst the Great Andes of the Equator*, will testify. But a spectacular achievement, coupled with one of the most controversial accidents in mountaineering history, has associated his name primarily with the Matterhorn. Before the Matterhorn, however, he had established in the Dauphiné his prowess as a mountaineer, and in the Andes he gained even greater heights fifteen years later. In the eyes of many Whymper became the very embodiment of mountaineering. If he did not always carry his honors graciously, at least he commanded respect for the high standards he claimed and observed in the climbing of great peaks. A great deal has been learned since Whymper's day about the art of climbing so that his exploits do not now seem so impressive as perhaps they are made to appear in the contemporary accounts. Yet, when, through Mr. Smythe's biography, one examines more closely into Whymper's accomplishments, especially his prodigious walking, a sound basis for his reputation is found to exist. This biography is well worth the attention of mountaineers; it would have been more worthy of a wider interest had Mr. Smythe taken time to enumerate and comment upon Whymper's work as a wood engraver. The period of apprenticeship is rather overdone, the period of fulfillment neglected. Whymper as boy and man is not altogether a prepossessing figure; as artist and mountaineer he is worthy of an even more extensive and critical treatment than has here been accorded him.

F. P. F.

ALBUM OF A MOUNTAINEER³ Wondrous and elaborate are the displays of photographic equipment and accessories that grace the windows of any number of city shops. No less than marvellous is the vast quantity of photographic miscellany that finds its way into the *impedimenta* of mountain trips. Yet the question often presents itself: what becomes of the pictures? Once in a while, perhaps, we gather to see some friend's mountain movies, or his color slides; we may deign to thumb through an album that was started industriously, but contains none of the last eight years' pictures. It would seem that thousands of negatives and prints have been forever doomed to repose unseen in dark corners of drawers and closets. But Frank Smythe has found a better way. A good photographer and an excellent mountaineer, he has gathered the fruit of these two pursuits and has served it in charming style. *My Alpine Album*, fourth of a series of similar books, concerns itself solely with the Alps—Eastern, Central, Pennine, the Bernese Oberland, the Range of Mont Blanc. In this volume there is more text than heretofore,

² *Edward Whymper*. By F. S. Smythe. Hodder & Stoughton, Ltd., London. 1940. 330+xiv pages, maps, and illustrations. Price, \$6.50.

³ *My Alpine Album*. By Frank S. Smythe. Adam and Charles Black, London. 1940. 147 pages, with 47 full-page photographs by the author, and a sketch map. Price, 12/6.

and the captions pertain less to photographic detail than to the story behind the subjects. Succeeding volumes do not seem to suffer as the photographer-author delves deeper into his files and experiences. The pleasing photographs enable us to enjoy the Alps vicariously, as, indeed, Mr. Smythe's countrymen must now do; and we may observe, as does the author, that "... High mountains are like great rocks set serenely above the wash of a turbulent sea. They endure and, perceiving this, men receive strength to endure also." D. R. B.

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SUDDEN DEATH If there is any truth to the journalistic maxim that violent IN THE HILLS⁴ death provides a news source of primary interest, then

Approach to the Hills is certainly one of the most fascinating books on mountaineering ever to have appeared. Chronicled in its pages are accounts of almost every major climbing disaster, featuring the tragedies on the Eigerwand, and the mass annihilations on Nanga Parbat. Death is cast as the unseen fourth man on every rope. Wading through the welter of falling bodies we find that Mr. Meade's approach to the hills is a gripping story of the recent history of the urge to climb. It is a condemnation of those who brought notoriety to the sport by neglecting the cardinal rule of safety first. The condemnation continues to include those "mountaineering desperados" who have fallen victim to the wiles of Mechanized Climbing, at the same time sadly failing to distinguish, as does most Victorian criticism of the sort, between the use of mechanization for safety and for suicide. To Mr. Meade a carabiner is so unthinkable that he will not even call it by name; all pitons are evil, tempting the unwary climber into some exposed position from which he cannot help but fall to his destruction. Those who have, strangely enough, enjoyed climbs that have been safeguarded with despised hardware will likewise enjoy picking out the various inconsistencies in Mr. Meade's articles of condemnation. Those who side with Mr. Meade will enjoy the articles themselves, but will perhaps wish that the critical portions of the book were not so highly dramatized that they detract from the unusual account of "A Neglected Pastime" (ballooning) and the charming chapters on Mr. Meade's experiences in the Himalaya many years ago. But whether or not one cares to be buffeted in the little tempest that springs from the pros and cons of mechanization, he will find *Approach to the Hills* well worth reading, the photographs carefully chosen and reproduced.

D. R. B.

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BRITISH HILLS⁵ Not so dramatic as the Alps, the hills and mountains in Great Britain nevertheless have a toughness and wildness as well as a beauty and allure which have made men love them and climb

⁴ *Approach to the Hills*. By C. F. Meade. E. P. Dutton and Co., Inc., New York. 1940. 265 pages, 16 illustrations, 2 maps. Price, \$2.75.

⁵ *British Hills and Mountains*. By J. H. B. Bell, E. F. Boxman, and J. Fairfax Blakeborough. Charles Scribner's Sons, New York. 1940. viii+120 pages, many illustrations. Price, \$3.00.

them for generations. Three men who know these hills have brought before us the various aspects of the uplands of the tight little island, and they have succeeded in impressing on the reader the unusual opportunities offered by them to the climber as well as the Rambler.

The mountains of Scotland are described by Dr. Bell, as he takes us through the rugged highlands from the gentler better known southern hills, through the heather-covered Grampians, the Cairngorms dominated by Ben Macdui, over venerable Ben Nevis, the highest British mountain, to the colorful mountains of the northwest. Equally enlightening is the tour of the English and Welsh section. Guided by Mr. Bozman, we visit the famous Lake district, with its rock-climbs and popular Helvellyn, then lofty Snowdon and the wild mountains of north Wales, and finally the lower hills of south England, the Sussex Downs, the Chilterns, south to Devonshire, Cornwall and the rocky cliffs of Land's End. Mr. Blakeborough depicts the Pennines and hills of northeast England. Although he quotes a native farmer who describes the Pennine climate as being "nine months winter and three months bad weather," we expected that in England anyway, and still can enjoy the trips he takes us on.

This book is of interest and of value even to those of us who may never be able to use it as a guide in climbing the British hills. It brings before us the great variety and beauty found in these hills, which we might not have realized existed, and lessens our occasional feelings of superiority when we compare heights. The many fine photographs illustrate very adequately the types of countryside and mountains. It would have been better if the end-paper maps were clearer, as the front ones especially are rather confusing. H. T. P.

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THE ALPS⁶ Although this is primarily a guide-book, Mr. Irving has managed also to give us a glimpse of those abstract treasures which are to be found in any mountains. The approaches and the trails and the boundaries may change, and some of the advice may be of no value when peace comes again, but the main content of the book shows the Alps as they are and always will be in spite of men and wars. The author treats each section of the Alps separately, introducing the reader to the great peaks and the smaller peaks, too; the difficult climbs and the easier walks. The geological structure, the flowers and animals, something of the people of the mountains, and graphic little anecdotes are included to relieve it of too guide-book a flavor. Gentle advice is given on what not to do, and what not to miss, and many interesting trips are suggested. Any lover of mountains would, I think, be stimulated to learn more of these beautiful ranges, proof that the book has fulfilled the desire of the publisher and the hope of the author. It is well illustrated with 131 fine photographs, and the end papers are maps of the region, without which no travel or guide-book is ever complete. H. T. P.

⁶ *The Alps*. By R. L. G. Irving. Charles Scribner's Sons, New York. 1940. viii+120 pages, many illustrations. Price, \$3.00.

HIMALAYAN CLIMBS⁷ To encourage other men to climb in the Himalaya as he has done, Mr. Waller, a young British subaltern, tells his story of hazard, hard living, and adventure in the realm of ice, rock and snow, blizzard and avalanche, stupendous height and abysmal chasm. During a seven-year period of military duty in India, his six expeditions ranged from scrambles on a 15,928-foot peak in the Thajiwas Range to a shot at 25,660-foot Masherbrum. He found that the experience as a whole stimulated mentally, strengthened physically, and created a passion for the "everlasting hills" and an enthusiasm for mountaineering and the fellowship among climbers. He regards Himalayan climbing as not so much an expensive sport for the superman with the large expedition as a super-sport for the ordinary man with the smaller party. Should others follow the example of this daring young officer, may we trust that they will gain as much as he did without even such relatively minor injuries and losses as marked the retreat from Masherbrum. The book is well illustrated with many photographs by the author. B. S.

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DEATH VALLEY⁸ Nine decades have passed since 101-year-old Indian George saw the advance guard of the Jayhawker party of 1849; but in the words of Mr. Glasscock, one of the outstanding historians of old western mining camps: "Death Valley is unchanged. Only the man-made threads of road upon its ruggedness have opened the way to its wonders, beauties, and history." In successive chapters of this most readable narrative we learn of the Forty-niners; of mines, lost and found; of the Indians; of Panamint City; where the Death Valley region had its first mining excitement; of borax and the 20-mule teams; of those who died in Death Valley; of Rhyolite and the railroads; of the mining towns (now mere ghosts of themselves) of Skidoo, Leadfield, and Greenwater, where Glasscock and an associate founded the "Death Valley Chuckwalla" in 1906; of modern developments, mainly for the tourist, and the formation, in 1933, of the National Monument.

The book's most interesting function, however, is its thorough-going but friendly debunking of Walter Scott, better known as Death Valley Scotty. A photographic reproduction of the Santa Fe Route receipt reveals that the much publicized special train run in 1905 cost \$5500 rather than the \$100,000 Scotty said it did. Glasscock adds, "Later, the mysterious Midas of Death Valley walked straight into the greatest piece of luck in his entire career. He found a mine from which he could take \$1000 bills and minted gold. It was in the person of Albert M. Johnson, president of the National Life Insurance Company of America, with headquarters in Chicago." Then, "The only

⁷ *The Everlasting Hills*. By J. Waller ("J. W."). William Blackwood and Sons Ltd., Edinburgh and London. 1939. xii+190 pages. Sketch-maps and 64 photographs. Price, 15/.

⁸ *Here's Death Valley*. By C. B. Glasscock. Bobbs-Merrill Co., New York. 1940. xiv+329 pages, illustrated. Price, \$3.00.

remaining mystery is why Albert Johnson has been putting up the money to maintain Scotty in the public eye for a third of a century . . . at a cost of \$2,000,000. Or is it \$3,000,000?"

The second book⁹ deals at length with the routes and the vicissitudes of the emigrants of 1849, with but brief reference to Death Valley's features. Beginning with the Sand Walking Company (said by Carl I. Wheat to be a phonetic degeneration of "San Joaquin Company"), eighteen parties, all of them formed out of the original company, are described. One surprising revelation is that among the early '49 parties but one death took place in Death Valley; the Panamints or the Mojave desert having accounted for most of those who succumbed to the rigors of the California desert. This volume is notable for its comprehensive bibliography of articles published about Death Valley, by all odds the best yet seen by the reviewer. No less than 600 sources of information are listed and commented upon, making the book a rich mine of knowledge for those who wish to dig deeper into desert lore.

JAMES H. BARBOUR

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ANTARCTICA¹⁰ After many years and much persuasion, Mr. Bagshawe has written this interesting book about an unusual two-man Antarctic expedition. Because plans of a larger expedition fell through, it came about that two young members of the party stayed alone for a year on a tiny island, and carried on the scientific observations as best they could.

The building of a hut out of packing cases, bent nails, canvas, an abandoned boat and such; struggles with a temperamental stove and a leaky roof; culinary experiments, surprises, successes and disappointments; trials caused by frequent and violent changes in temperature; faithfulness to scientific observations; little celebrations and little jokes; whole-hearted laughter, cheerfulness and a fine attitude toward the whole situation—these are some of the elements that make up the story of *Two Men in the Antarctic*.

Members of the Sierra Club, or anyone who has taken extended outings away from civilization, should relish the accounts given of the many ingenious inventions and devices with which these young men supplemented their inadequate equipment and replaced broken pieces of it. Likewise, any high-tripper who has ever gone up and down the mountains haunted by the fear of losing his one and only spoon should take heart from this: ". . . as I was rather tired of eating only with a knife or my fingers, I made myself a two-pronged fork from a piece of packing-case wood."

A large appendix gives meteorological, ice, tidal and zoological observations.

B. S.

⁹ *The Valley Whose Name is Death*. By E. I. Edwards. San Pasqual Press, Pasadena, Calif. 1940. 122 pages. Price, \$2.75.

¹⁰ *Two Men in the Antarctic*. By Thomas Wyatt Bagshawe. The Macmillan Company, New York. 1939. xxi+283 pages. Maps, text-figures, panoramas, a few photographs. Price, \$3.75.

A SKIER LOOKS "There are many," writes Arnold Lunn, "who not only love AT EUROPE"¹¹ mountains, but who are also interested in the historical background of romantic mountain worship. It is for them that I write . . ." These lines might well have been used as a foreword, for Mr. Lunn has written more than an autobiography. *Come What May* far transcends the vital statistics of the Lunn family. Such details are submerged in a fascinating review of history, religion, politics, adventure, and humor, presented by a keen observer and forceful writer. The variety of chapter headings will indicate the scope of his experience: Why Men Climb; Portrait of a Liberal; Germany in Defeat: A Memory; The Conflict Between Science and Atheism; Greek Olympics; Rehearsal for War; Impressions of the States; Battle in Spain. Of particular interest to those who enjoy mountains will be the frequent golden bits of Lunn philosophy, epitomized, perhaps, by this quotation:

. . . but the mountain that one has climbed holds something of one's past life on its crest. Like a kindly biographer, it retains what one would wish remembered, and rejects the trivialities of life, sifting the gold of great memories from the sand of littleness which filters back into the stream of oblivion. The steps carved out of the stubborn ice have vanished, but the mountains retain the imprint of friendships forged in their company. The memory of the dead passes into them, and their silence still echoes old songs and old laughter. Pleasure is of the moment, but the accidents of time and space, and the decay which awaits all mortal things, have no power to destroy the imperishable element in the happiness of the hills.

For such gems as this we can forgive Mr. Lunn his uncompromising advocacy of the telemark!

D. R. B.

SKI DIRECTORY¹² That all the things every skier ought to know could be gathered between the covers of one book is, of course, too much to expect, even to wish for; however Frank Elkins, Ski Editor of *The New York Times*, has come amazingly close to doing it. As compiler and editor of *The Complete Ski Guide*, he has assembled everything pertaining to skiing, from *adk* to *vorlage* (the ski glossary gives no term beginning with *z*) in a reference book without reading which no skier can be properly informed. A check-list of North American ski areas, technique, equipment, safety, ski history, songs and poetry, racing rules and results—these are some of the subjects considered and expounded by experts throughout the many interesting pages. Some readers might feel, in glancing at the format, that this is not so much a book as a magazine with stiff covers and without advertisements; they might wonder, in studying the few pages of photographs, what has become of all the good pictures that certainly must have been taken during

¹¹ *Come What May*. An Autobiography by Arnold Lunn. Little, Brown and Company, Boston. 1941. 348 pages. Price, \$3.00.

¹² *The Complete Ski Guide*. Edited by Frank Elkins. Doubleday, Doran & Company, Inc., New York. 1940. xviii+286 pages, illustrated. Price, \$2.50.

recent ski seasons; they might be hard-put to recall anything quite so confusing as the instructions for judging ski jumping. But they will forgive all these shortcomings by the time they near the end of the book, and find among the skiing proverbs this gem: "Fools schuss where angels fear to stem."

D. R. B.

A SKIER'S Long after the last word has been said about ski technique, **COMIC SECTION**¹³ and archaeologists are unearthing sheaves and bits of chair-lift towers here and there, we hope that in some hidden catacomb they'll come upon the books of Barsis. Only then will they be able to understand the motivations of skiers of our era. It will make no difference what language the unearther speaks. He will still understand, for Max Barsis has taken the ups and downs at a ski resort, and has translated all the subtler points into an international tongue—the cartoon. Other cartoonists might have drawn better, but they could hardly have retained the mirror-like quality that skiers will enjoy in *Barsis at Snow Valley*. For this is an extraordinary mirror. It enables us to see and laugh at, not ourselves, but the peculiarities of the other species of the genus *Shiaddicta* that inhabit the beaten snow slopes.

D. R. B.

CAMPING To one who was packed on a burro at the age of four, *Modern Guide*¹⁴ *Camping Guide*, by Geo. W. Martin, seems a trifle sketchy and almost platitudinous in spots, and I think most seasoned Sierra Club members would react in the same way. This is scarcely a valid criticism, however, since the book is obviously written for people who are new at the game, and it is difficult for some of us who are so used to sleeping between earth and stars to project ourselves into the state of one who has always slept between a roof and a mattress. For the latter, there is certainly much that is new and informative in the book and it is all perfectly sound.

My only real criticism would be that as a guide, it attempts too much and therefore accomplishes too little. The author undertakes to cover auto, foot and canoe camping and ski touring, tents, packs, bedding, stoves, fires, food, utensils, cooking, clothing, and miscellaneous equipment for the above kinds of camping, plus first aid and insects. This is an ambitious assignment and hard to do adequately in 339 pages. Hence much is omitted that might seem appropriate to a complete campers' guide. In all fairness, it should be admitted that perhaps he did not intend to write a complete guide. Such a guide would either have to be of encyclopaedic proportions, or else should limit itself to a narrower field, say auto camping, animal packing, or safety and first aid, any of which could fill a book by itself.

Perhaps the book might better have been called, "A Survey of Camping, its Variety and Possibilities." It does indeed afford an excellent idea of the

¹³ *Barsis at Snow Valley*. By Max Barsis. Stephen Daye Press, Brattleboro, Vt. 1940. 90 pages of comic illustrations. Price, \$1.50.

¹⁴ *Modern Camping Guide*. By George W. Martin. D. Appleton-Century Co., Inc., New York. 1940. xxiii+349 pages, illustrated. Price, \$2.50.

scope of camp life and of the various ways to go about it. Experience, after all, is the only campers' bible and I think Mr. Martin's book will start a person off on the right boot.

LOUISE HILDEBRAND

"RICE IS NICE"¹⁵ When the Hildebrands wrote *Camp Catering*, the first draft contained no recipes. Mother Hildebrand said it was all right, but nobody could possibly cook by it, so I was persuaded to intersperse recipes here and there in the nature of marginal notes, and have never been quite sure whether I could vouch for them. The Browns' cook book is the perfect antidote to *Camp Catering*. It is full to the brim with hundreds of wonderful recipes.

There are recipes for plain and fancy picnics and barbecues, for tame and wild fish and game, for home and for camp, all charmingly "disorganized" under such headings as: "Squaw Feeds Paleface," "Caveman Feeds Girl Friend," "Make Mine Steak," and "Rice is Nice." These are recipes for exotic dishes like "Reed-Birds a la Lindenthorne" and "Sweet-Brier Rose Hip Jam," besides a hundred ways of making stew. Or how would you like some "Breaded Bear Paws" or a "Bull's Head Breakfast," or may we suggest "Cowslip Salad," "Grape Soup," or a little "Light-red Horse Bread"?

The Browns have traveled extensively, have cooked under all conceivable conditions and have picked up tricks all along the way. There is something in their bag to please every gourmet, and sprinkled in among the recipes are some entertaining descriptions of their own experiences.

LOUISE HILDEBRAND

WILD RELATIVES OF THE PURPLE COW¹⁶ Frequently heard of, but seldom seen, are the filla-ma-loo bird, the snipe, and the side-hill gouger. Tales of these, as well as other legendary wood varmints of the North-east logging country have been the subject of many years' research by Henry H. Tryon. The results of his studies appear in *Fearsome Critters*, which describes such creatures as the Squonk, which ". . . is a most retiring, bashful, crepuscular animal, garbed in a loose, warty, singularly ill-fitting skin. The squonk is always unhappy—even morbid, and given to constant weeping over his really upsetting appearance. The sound of his weeping is a low note of pleading somewhat resembling the call of the Cross-feathered Snee." Another, perhaps more startling, example, is the Dungavenhooter, which, "concealing itself with Satanic cunning behind a whiffle bush . . . awaits the passing logger. On coming within reach of the dreadful tail, the victim is knocked senseless and then pounded steadily until he becomes entirely gaseous, whereat he is greedily inhaled through the wide nostrils. Rum-sodden prey is sought with especial eagerness."

DAISY MILLER

¹⁵ *Outdoor Cooking*. By The Browns, Cora, Rose & Bob. The Greystone Press, New York. 1940. 506 pages. Price, \$2.50.

¹⁶ *Fearsome Critters*. By Henry H. Tryon. The Idlewild Press, Cornwall, New York. 1939. xiv+68 pages, with illustrations. Price, \$2.00.

CALIFORNIA SHRUBS¹⁷ Here is a manual generously illustrated with beautifully done pen and ink drawings, fine in detail, to delight the heart of one whose knowledge of botany is not all he or she would like it to be. To learn to key out plants correctly and quickly takes practice and is a little discouraging at first if done without some visual help. The manual provides both a good key and many helpful illustrations. In addition there is an index and glossary, a section of nomenclatorial changes and a bibliography. One very interesting section, not often found in a book of this sort, describes the use of the native shrubs in gardens. Mr. McMinn has done a very thorough job in making the manual interesting and practical. Although as a regular companion on field trips its weight might be discouraging, this is a book anyone interested in native shrubs would like to own.

LAURA MERCADO

THAT THEY MAY NOT BLUSH UNSEEN¹⁸ For those who would know the floral wealth of California's deserts, Prof. Jaeger has written and illustrated a book that will prove a boon to the amateur plant-lover and a valuable reference book for the professional botanist. Well over 760 kinds of trees, shrubs, and herbs are described and nearly all are illustrated by excellent line drawings done by the author, which show to real advantage the characteristic aspect of flower, fruit, or habit. Besides these drawings there are over 20 photographic illustrations of those plants that are highly distinctive in general appearance, such as agaves, yuccas, and cacti. In the paragraph devoted to each plant are given the common and scientific names, the derivation of the scientific name, a brief non-technical description, and notes on the distribution and natural history of the plant. The notes on the natural history concern not only the plant itself and the place where it grows, but frequently tell of its relations to mammals, birds, reptiles, and insects. These notes are a unique contribution to desert biology by one eminently fitted to present them. Another distinctive feature is found in the brief biographical sketches of those scientists, explorers, or collectors whose names are commemorated in scientific names of the desert plants.

In a book so finely conceived and so excellently achieved, one is most reluctant to call for more; but we can scarcely overlook the omission of desert grasses, sedges, and rushes, since they are sometimes very attractive and always of great biologic interest. Even a casual observer will be attracted by the feathery flower-cluster of the Desert Rice-grass (*Oryzopsis hymenoides*); and in such a forbidding habitat as the alkaline flats of Death Valley, an observant visitor is likely to be as curious about the pungent-tipped Cooper

¹⁷ *An Illustrated Manual of California Shrubs*. By Howard E. McMinn. With a Chapter on the use of California shrubs in garden design, by Fred H. Schumacher. J. W. Stacey, Inc., San Francisco. 1939. xi+689 pages, with many illustrations. Price, \$5.00.

¹⁸ *Desert Wild Flowers*. By Edmund C. Jaeger. Stanford University Press. 1940. xii+322 pages; numerous illustrations. Price, \$3.50.

Rush (*Juncus Cooperi*) as the fleshy-stemmed Picklebush (*Allenrolfea occidentalis*).

Also we believe that this work would be more immediately useful if a synoptical outline or key to the plants could have been included, even if it had been added as an appendix. In some groups (as in the genus *Cryptantha*, for example), a key is almost necessary for the identification of the species; but in other groups we would have welcomed the keys, because we are certain that Prof. Jaeger, who has shown so intimate a knowledge of desert plants, could have given us in synoptical form a refreshing viewpoint on numerous botanical problems.

Great accuracy in the wealth of scientific data and in their presentation is a marked attribute. In subsequent editions, which this work is bound to enjoy, a few misspellings and an occasional minor mistake in the capitalization of a specific name can be corrected. With great appreciation, Prof. Jaeger has given desert travelers an indispensable book, and the Stanford University Press has produced it with fine spirit and feeling.

JOHN THOMAS HOWELL

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LOTS FOR LESS¹⁹ In August, 1940, Volume I of Abrams' *Flora* was reprinted. At that time, a few typographical errors of the first printing were corrected (as, for example, in the key to the species of *Juncus*), and the names of certain genera were changed to conform to the *nomina conservanda* of the International Rules of Botanical Nomenclature. In the preface to the 1940 reprint, Dr. Abrams lists the names that have been affected. The volume deals with the vascular plants from the ferns to the birthworts, and 1299 species are described and illustrated. In the introduction to the volume, a brief discussion of plant distribution in the Pacific States is given with an outline of Merriam's Life Zones and with an analysis of the floral elements—the Boreal, Great Basin, Mexican, and Californian—that go to make up the flora of the Pacific States. The reprint is published on much better paper than was the first printing, and yet it is being offered at nearly a third less cost. The reprint will conform with the later volumes of this very useful and helpful work, Volume II of which will be published during 1941.

JOHN THOMAS HOWELL

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AUDUBON'S AMERICA²⁰ A glance at the end-paper map of *Audubon's America*, which shows the great ornithologist's travels in America, may surprise those who think of him merely as naturalist and painter of birds. The trail of his absorbing life leads from Haiti where he was born, to France

¹⁹ *Illustrated Flora of the Pacific States*, Volume I. By LeRoy Abrams. Stanford University Press. 1923; reprinted with minor changes, 1940. ix+538 pages, illustrated with 1299 figures. Price, \$7.50.

²⁰ *Audubon's America*. The Narratives and Experiences of John James Audubon. Edited by Donald Culross Peattie. Houghton Mifflin Co., Boston. 1940. ix+329 pages, 17 color illustrations. Price, \$6.00.

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which he left at the age of eighteen to come to America. It covers eastern North America from Labrador to Florida, goes down the Mississippi, and up the Missouri to its conjunction with the Yellowstone River. Along this trail he came in contact with people in all walks of life, experienced poverty and riches, but mostly poverty; and as Mr. Peattie says in the introduction, he "had a genius for the art of living— . . . he savored everything, even the unsavory . . . he knew all types; he was the friend of Daniel Boone and Daniel Webster." Most important, he liked to write and wrote well, and has been able to picture for us his adventurous life, in his detailed diary, his letters and professional writings.

It is from the widely scattered and some rather inaccessible volumes containing his various writings that Mr. Peattie has selected the portions for this book. Whether it is his account of his first meeting with the eccentric naturalist Rafinesque, his almost fatal adventure in a rough cabin near the frontier, his remarkable encounter with a runaway slave, or the graphic daily journal of the trip up the Missouri through the land of the buffalo and Indian, it is a vivid picture of the time. He has the art of livening up even the descriptions of animals and birds with stories or picturesque conversation. He writes what he sees with no romantic embellishments but plenty of lively observations.

Mr. Peattie has done a very fine job in bringing into one volume, and logically, a great many phases of Audubon's life. A most readable biographical note at the beginning gives the reader a skeleton to clothe with the rich details in the rest of the book. Where it is necessary, a short and interestingly written explanatory note precedes the excerpt from Audubon's writings, and the whole book is well and characteristically illustrated with numerous facsimiles of Audubon's prints and paintings of both birds and animals.

Perhaps Mr. Peattie is almost too ready to explain away any slip from scientific perfection that Audubon might make, but his admiration for his subject has helped make Audubon live for us, and it is far better to remember a great man for his greatnesses than for his failings. It is a book that anyone may read with interest; but a naturalist with a flair for historical background and early discoveries in the natural history field will relish it with special joy.

H. T. P.

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A FIELD GUIDE Here is a compact handbook to provide the field observer with just the information he needs for the identification of unknown birds. Some color plates are used, but most of the species are illustrated in monochrome, placing emphasis on shapes, color values, and markings—factors of much importance in field work. Each group is pictured as best befits its type. Resemblant birds are shown on the same page, so that sometimes minor, but important, distinguishing characteristics

²¹ *A Field Guide to the Birds*. By Roger Tory Peterson. Revised and enlarged. Houghton Mifflin Co., Boston. 1939. xx+180 pages, with many illustrations. Price, \$2.75.

can be noted. The text is brief, but adequate, giving the primary identification marks for each species and explaining the differences existing among similar species. Plates are not always as near the accompanying text as they might be, a matter that is at times confusing. Also, it would be a desirable feature to have plate pages numbered and page references to the text printed under each species shown. The book is mainly useful east of the Rockies; bird lovers of the West should watch for a companion volume on western birds scheduled to appear in May which, if as complete, will solve almost all identification problems that occur afield.

RICHARD G. JOHNSON

EASTERN BIRDS²² *Natural History of the Birds of Eastern and Central North America* is a book far more entertaining than its lengthy and staid label indicates. It is full of accurate information, of all eastern birds, pleasingly interrupted with vivid accounts of their amusing and interesting traits of behavior. There are over 500 pages of a delightful flow of words. Color illustrations—97 pages of them—complete the book, and provide opportunity for acquiring much bird lore in an easy manner. The illustrations are grouped at the back, and so arranged that similar species appear on the same plate. All are adequately labeled and cross-indexed with the text. Western bird enthusiasts, remembering that a good many of the birds described are either native or visitant to this region, will find in this work many hours of reading pleasure.

RICHARD G. JOHNSON

ALPINE FLOWERS²³ Judging from the superb photography and the unusual descriptions in *Mountains in Flower*, the flowers of the Dolomites in northern Italy must be surpassingly lovely. Each of these beautiful alpine flowers is photographed in its natural habitat, with a background suitable to its own peculiar situation, a project requiring skill, the eye of an artist, and unusual patience. Ernst Krause, the photographer, must have been abroad in his mountains many times by sunrise. Dr. Volkmar Vareschi, botanist, scientist, geologist, and mountaineer, supplies the context. A piece of folk-lore, an alpine custom, a note on distribution, a quotation from an old Herbal, a geologic note or a vivid description make up a page of delightful reading opposite each page-size photograph. An appendix supplies the scientific data. The one color plate is of a gentian, its coloring so lovely that it is almost unbelievable. This is a delightful and unusual book, one that a book lover would delight to own. It is almost certain also to arouse acquisitiveness in a grower of alpine flowers, and to foment that form of *wanderlust* known to mountain climbers only.

BLANCHE CLEAR

²² *Natural History of the Birds of Eastern and Central North America*. By Edward Howe Forbush. Revised and abridged with the addition of more than one hundred species by John Richard May. Houghton Mifflin Co., Boston. 1939. xxvi + 554 pages, with 97 color plates. Price, \$4.95.

²³ *Mountains in Flower*. By Volkmar Vareschi. The Macmillan Co., New York. 1940. 159 pages, with 72 illustrations from photographs by Ernst Krause.

MYSTERY STORY. Stefansson has in *Ultima Thule* made the study of arctic climate as interesting as a good mystery story—in fact, as good as two mystery stories. He leads up to his main thesis by a skillful analysis of the voyages to the north of Pytheas and Columbus. The author's point of view may be summarized in one line of his text: "The historians probably know their onions. Or do they?" Why are we reviewing this book here? Well, there are things you might like to know if you are planning to go to the Arctic. Moreover, we found it pretty good stuff; and, after all, a first class historical mystery is cake and cookies to this particular reviewer.

F. P. F.

CLIMBING DOWN UNDER²⁵ W. Scott Gilkison dedicates his *Peaks, Packs and Mountain Tracks* "to all those who in turn taught me to crawl, as toddle, to walk, to tramp, to ski, to climb," and this is the key to the whole book. It is very evident that Mr. Gilkison has an undying devotion for New Zealand's hills and gently wandering valleys, its mountain peaks which rise challengingly from the meadows. He tells of tramps, of skiing, of bicycling, of "swagging" (back-packing to us), as well as climbing. It is refreshing to read of bright summer mornings in December and of skiing in July. The book is sprinkled with humorous drawings of mountaineers in difficulty. There are many poems set to known tunes and some set to tunes evidently current in New Zealand. Of high quality are the photographs which show peaks of great grandeur. Reading this book brings the realization that all who love mountains are cut from the same cloth.

MARY M. MYERS

²⁴ *Ultima Thule*. By Vilhjalmur Stefansson. The Macmillan Company, New York. 1940. 383 pages. Price, \$3.50.

²⁵ *Peaks, Packs and Mountain Tracks*. By W. Scott Gilkison. Printed by Whitcombe & Tombs, Ltd. 1940. 120 pages, illustrated. Price, 4/6.

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